

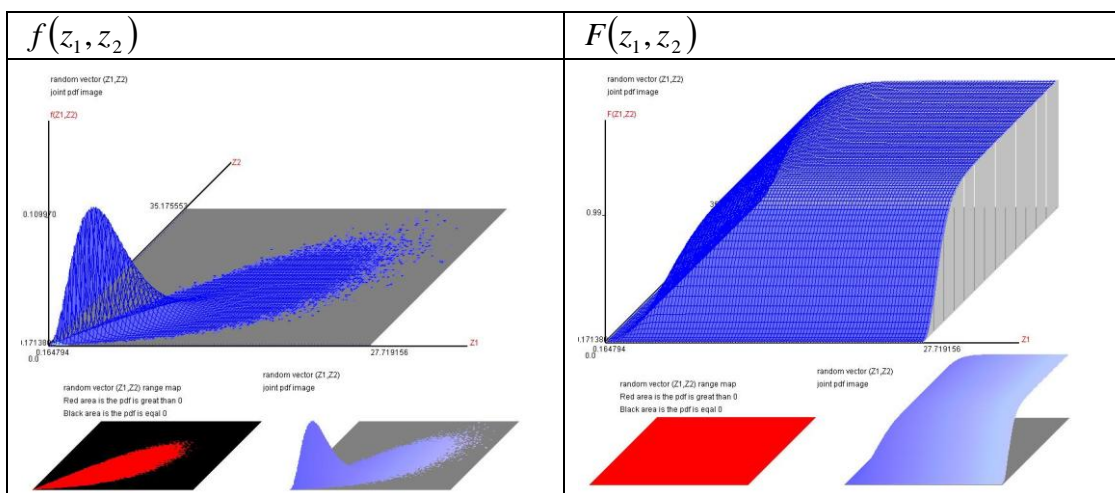
2)

2.1) $X_1 = \sigma \sim \text{gamma}(\alpha = 5, \beta = 1), X_2, \dots, X_{14} \stackrel{iid}{\sim} \text{Normal}(0, \sigma^2)$

$f_{X_2}(x_2), F_{X_2}(x_2)$	Coefficient
	Mathematical Mean: -0.00029 Geometrical Mean : none Harmonic Mean : none Variance : 30.01055 S.D. : 5.47819 Skewed Coef. : -0.00017 Kurtosis Coef. : 5.59653 MAD : 3.99007 Range : 153.08103 Mid_range : -0.68418 Median : 0.00005 Q1 : -2.92424 Q2 : 0.00005 Q3 : 2.92453 IQR : 5.84877 C.V. : none

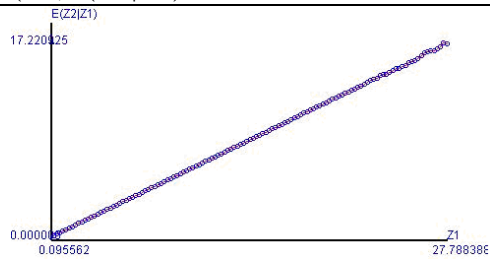
$Z_1 = X_1, Z_2 = S$ of (X_2, \dots, X_{14}) ,

$f_{Z_2}(z_2), F_{Z_2}(z_2)$	Coefficient
	Mathematical Mean: 4.89716 Geometrical Mean : 4.32026 Harmonic Mean : 3.74388 Variance : 6.01924 S.D. : 2.45341 Skewed Coef. : 1.14672 Kurtosis Coef. : 5.14399 MAD : 1.89658 Range : 35.18007 Mid_range : 17.67347 Median : 4.46021 Q1 : 3.11963 Q2 : 4.46021 Q3 : 6.19605 IQR : 3.07642 C.V. : 0.50099



$E(Z_1) = 5.0003, \text{Var}(Z_1) = 5.0023$
 $E(Z_2) = 4.8972, \text{Var}(Z_2) = 6.0199$
 $\text{Cov}(Z_1, Z_2) = 4.8985$
 Z_1 and Z_2 correlation coefficient = 0.8927.

$(Z1, E(Z2|Z1))$

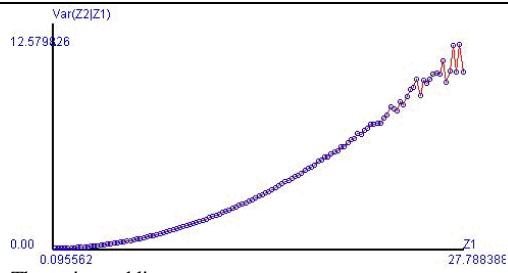


The estimated line -----

$$E(Z2|Z1) = 8.69772793434094640000 + 0.99657718080015911000*(Z1 - 0.01958309719339013100*(Z1 - 0.01552774535502976500*(Z1 - 0.009782080888781684640*(Z1 - 0.00429542454168085900*(Z1 - 0.00193943805061280730*(Z1 - 0.00053109996069622412*(Z1 - 0.00019482679999782704*(Z1 - 0.00003473214314020368*(Z1 - 0.00001109662201770334*(Z1 - 0.00000130838958577878*(Z1 - 0.00000037924776563614*(Z1 - 0.00000002932256123155*(Z1 - 0.00000000791361992603*(Z1 - 0.00000000038561073839*(Z1 - 0.00000000009859163052*(Z1 - 0.00000000000274529040*(Z1 - 0.00000000000067300559*(Z1 - 0.00000000000000816331*(Z1 - 0.00000000000000193536*(Z1 - 8.88803445695439900000))^1 + 8.88803445695439900000))^2 + 8.88803445695439900000))^3 + 8.88803445695439900000))^4 + 8.88803445695439900000))^5 + 8.88803445695439900000))^6 + 8.88803445695439900000))^7 + 8.88803445695439900000))^8 + 8.88803445695439900000))^9 + 8.88803445695439900000))^10 + 8.88803445695439900000))^11 + 8.88803445695439900000))^12 + 8.88803445695439900000))^13 + 8.88803445695439900000))^14 + 8.88803445695439900000))^15 + 8.88803445695439900000))^16 + 8.88803445695439900000))^17 + 8.88803445695439900000))^18 + 8.88803445695439900000))^19 + 8.88803445695439900000))^20 +$$

coefficient of determination=0.999966321530769590

(Z1, Var(Z2|Z1))

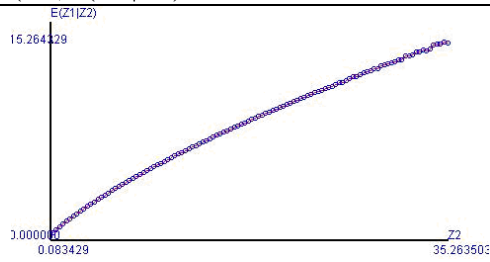


The estimated line -----

$$\text{Var}(Z2|Z1) = 3.20391187306086070000 + 0.67372522666119039000*(Z1 - 0.09923643544971128000*(Z1 - 0.05882501159794628600*(Z1 - 0.02687814586352033100*(Z1 - 0.01897629251470789300*(Z1 - 0.00483772637994661640*(Z1 - 0.00275495090318145230*(Z1 - 0.00044369593997828360*(Z1 - 0.00021732310869992943*(Z1 - 0.00002341917061965404*(Z1 - 0.00001021999483441505*(Z1 - 0.00000075524762924162*(Z1 - 0.00000029965623493666*(Z1 - 0.00000001514525081042*(Z1 - 0.00000000553164011818*(Z1 - 0.00000000018438765627*(Z1 - 0.00000000006252016960*(Z1 - 0.00000000000124751155*(Z1 - 0.00000000000039526005*(Z1 - 0.00000000000000359625*(Z1 - 0.00000000000000107074*(Z1 - 8.88803445695439900000)^1 + 8.88803445695439900000)^2 + 8.88803445695439900000)^3 + 8.88803445695439900000)^4 + 8.88803445695439900000)^5 + 8.88803445695439900000)^6 + 8.88803445695439900000)^7 + 8.88803445695439900000)^8 + 8.88803445695439900000)^9 + 8.88803445695439900000)^10 + 8.88803445695439900000)^11 + 8.88803445695439900000)^12 + 8.88803445695439900000)^13 + 8.88803445695439900000)^14 + 8.88803445695439900000)^15 + 8.88803445695439900000)^16 + 8.88803445695439900000)^17 + 8.88803445695439900000)^18 + 8.88803445695439900000)^19 + 8.88803445695439900000)^20 + 8.88803445695439900000)^21 +$$

coefficient of determination=0.997129318972125090

(Z2,E(Z1|Z2))

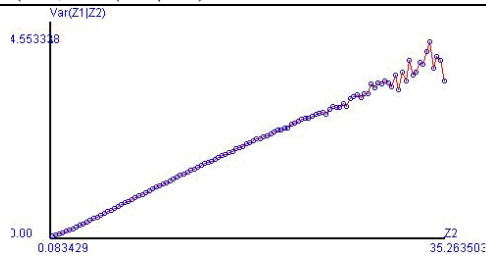


The estimated line -----

$$E(Z1|Z2)= 9.18943164002848790000+ 0.67553893701847301000*(Z2- 10.28565070733333400000)^1+ -0.01828669034875929400*(Z2- 10.28565070733333400000)^2+ 0.00403540356859366510*(Z2- 10.28565070733333400000)^3+ 0.00305570499040186410*(Z2- 10.28565070733333400000)^4+ -0.00058218287902178645*(Z2- 10.28565070733333400000)^5+ -0.00044062929373467341*(Z2- 10.28565070733333400000)^6+ 0.00003923771832781142*(Z2- 10.28565070733333400000)^7+ 0.00003060043172808946*(Z2- 10.28565070733333400000)^8+ -0.00000131387560287077*(Z2- 10.28565070733333400000)^9+ -0.00000118004825822027*(Z2- 10.28565070733333400000)^10+ 0.00000002291914845019*(Z2- 10.28565070733333400000)^11+ 0.00000002708018032038*(Z2- 10.28565070733333400000)^12+ -0.00000000018538925920*(Z2- 10.28565070733333400000)^13+ -0.00000000037844986867*(Z2- 10.28565070733333400000)^14+ 0.00000000000013245733*(Z2- 10.28565070733333400000)^15+ 0.000000000000315603533*(Z2- 10.28565070733333400000)^16+ 0.00000000000000731003*(Z2- 10.28565070733333400000)^17+ -0.0000000000001441498*(Z2- 10.28565070733333400000)^18+ -0.0000000000000000003252*(Z2- 10.28565070733333400000)^19+ 0.0000000000000000002770*(Z2- 10.28565070733333400000)^20+$$

coefficient of determination=0.999953437797272530

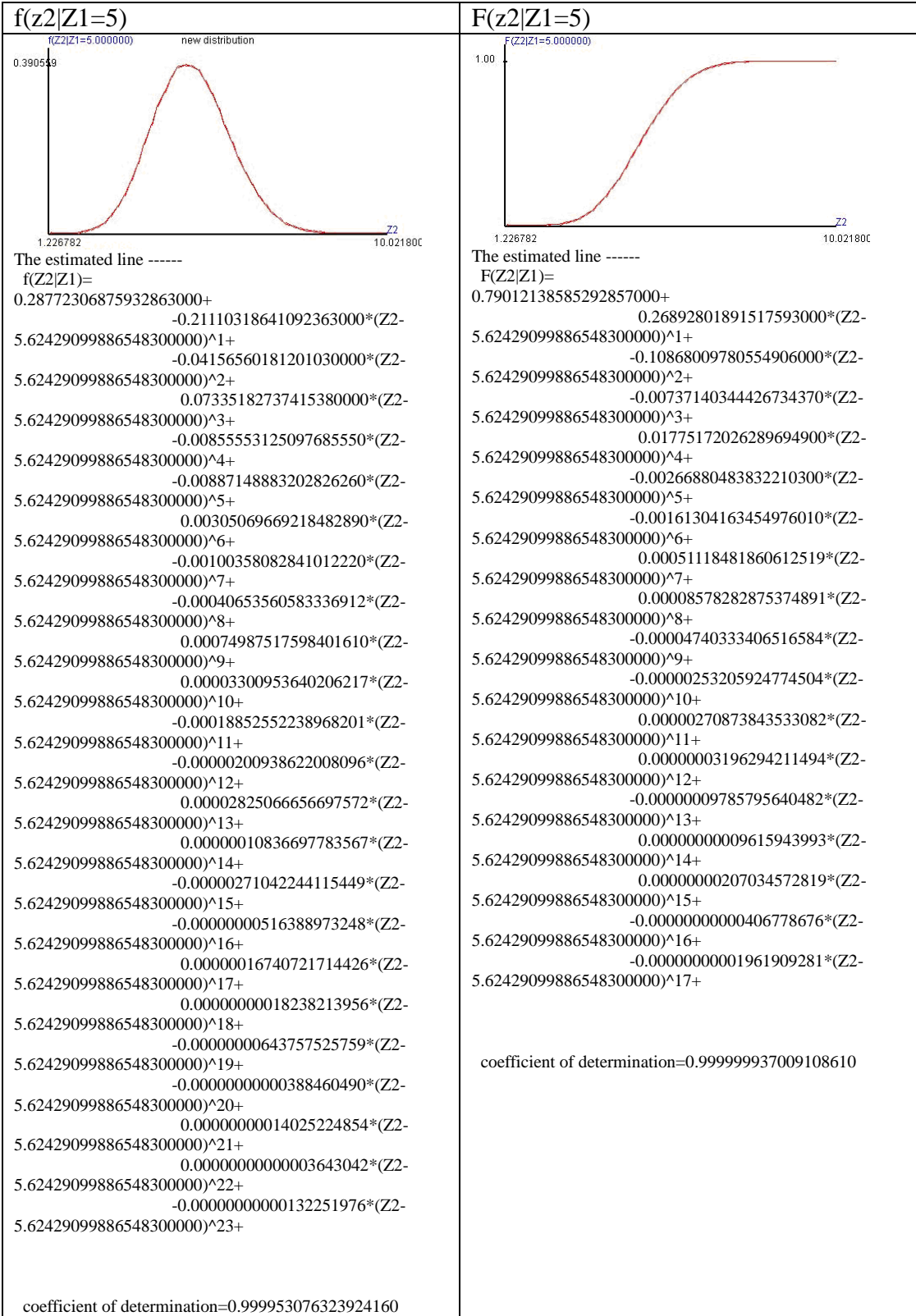
(Z2, Var(Z1|Z2))

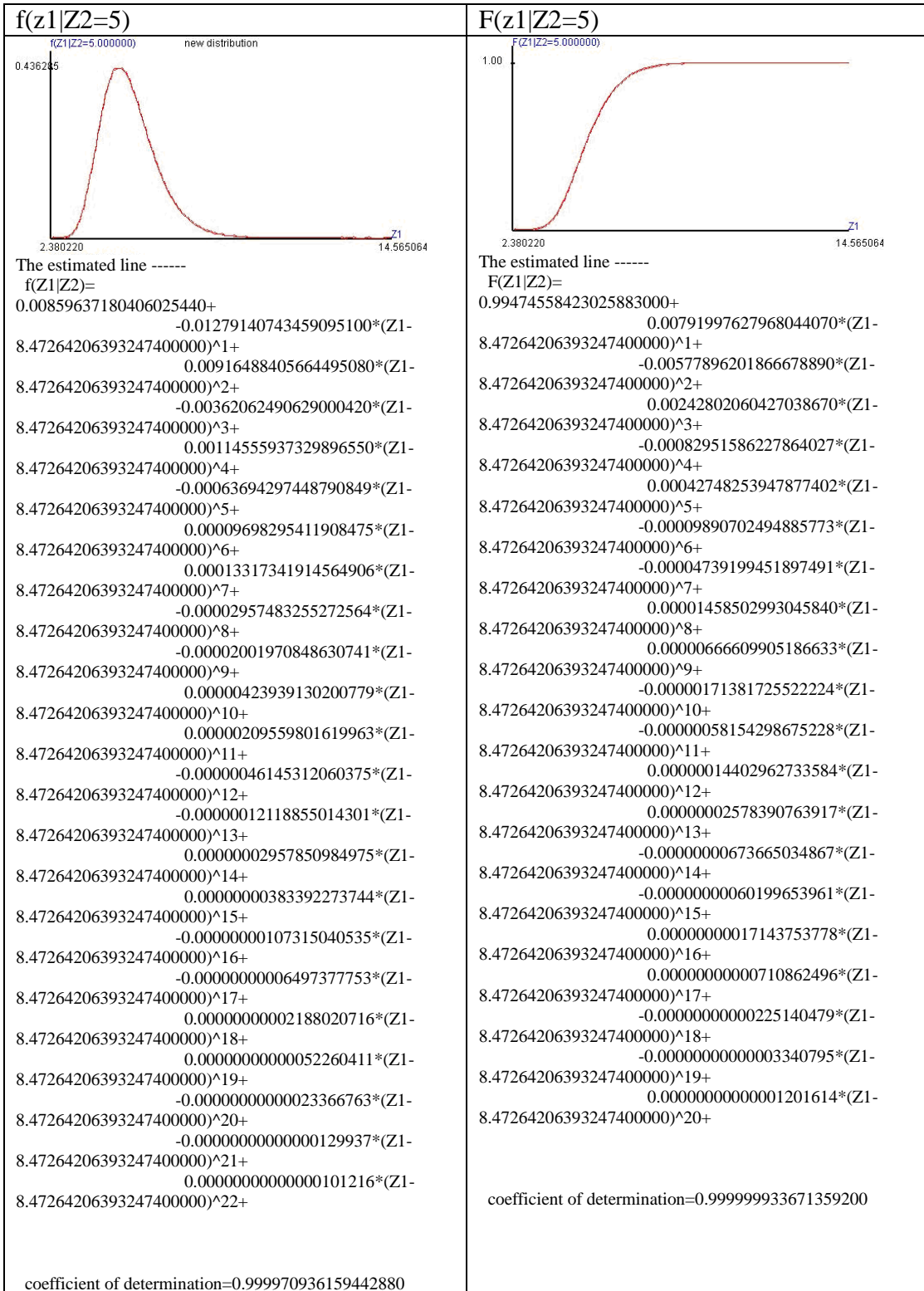


The estimated line -----

$$\begin{aligned} \text{Var}(Z1|Z2)= & 2.17369688767394110000+ \\ & 0.20207763725193217000*(Z2- \\ & -0.00423503317324502860*(Z2- \\ & 0.00375764316413551570*(Z2- \\ & 0.00025017940288307727*(Z2- \\ & -0.00080072572745848447*(Z2- \\ & 0.00000975215989740263*(Z2- \\ & 0.00007789683604642050*(Z2- \\ & -0.00000447077838217069*(Z2- \\ & -0.00000451274576107608*(Z2- \\ & 0.00000033458569936862*(Z2- \\ & 0.00000016767832811126*(Z2- \\ & -0.00000001146339456562*(Z2- \\ & -0.00000000400131960898*(Z2- \\ & 0.00000000021224655341*(Z2- \\ & 0.00000000006015887094*(Z2- \\ & -0.00000000000219623328*(Z2- \\ & -0.00000000000054719623*(Z2- \\ & 0.000000000000001198026*(Z2- \\ & 0.000000000000000274175*(Z2- \\ & -0.00000000000000002690*(Z2- \\ & -0.00000000000000000580*(Z2- \\ & 10.28565070733333400000)^1+ \\ & 10.28565070733333400000)^2+ \\ & 10.28565070733333400000)^3+ \\ & 10.28565070733333400000)^4+ \\ & 10.28565070733333400000)^5+ \\ & 10.28565070733333400000)^6+ \\ & 10.28565070733333400000)^7+ \\ & 10.28565070733333400000)^8+ \\ & 10.28565070733333400000)^9+ \\ & 10.28565070733333400000)^10+ \\ & 10.28565070733333400000)^11+ \\ & 10.28565070733333400000)^12+ \\ & 10.28565070733333400000)^13+ \\ & 10.28565070733333400000)^14+ \\ & 10.28565070733333400000)^15+ \\ & 10.28565070733333400000)^16+ \\ & 10.28565070733333400000)^17+ \\ & 10.28565070733333400000)^18+ \\ & 10.28565070733333400000)^19+ \\ & 10.28565070733333400000)^20+ \\ & 10.28565070733333400000)^21+ \end{aligned}$$

coefficient of determination=0.996998461029435900



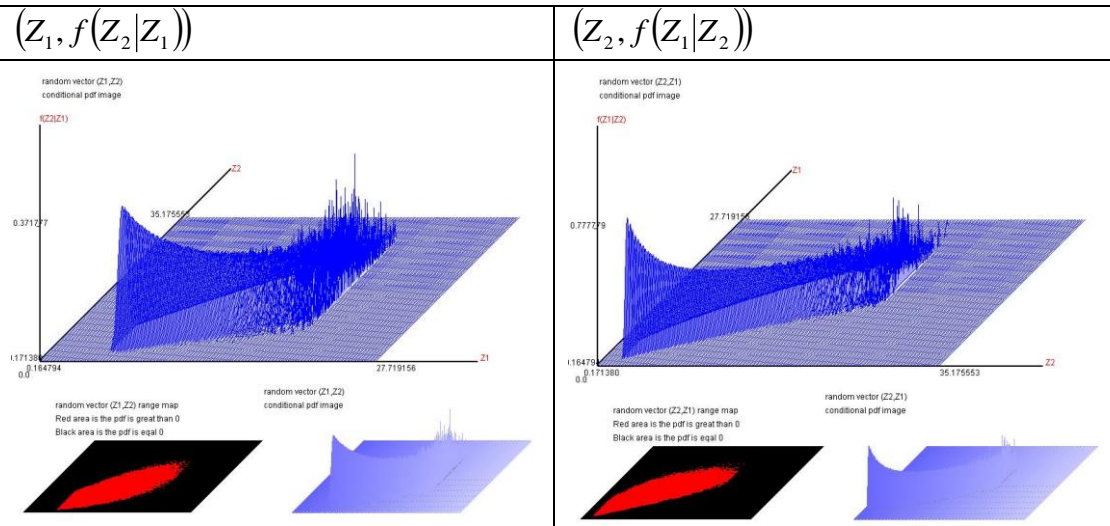


F(Z1,Z2) estimated line

The estimated line -----

$$\begin{aligned}
 F(Z_1, Z_2) = & 0.96617476380197331000 + \\
 & 0.00057896746341157268 * (Z_1 * Z_2) - 246.403026669980160000000000^1 + \\
 & -0.00000452193907207743 * (Z_1 * Z_2) - 246.403026669980160000000000^2 + \\
 & 0.0000002737905416272 * (Z_1 * Z_2) - 246.403026669980160000000000^3 + \\
 & -0.0000000014031561546 * (Z_1 * Z_2) - 246.403026669980160000000000^4 + \\
 & 0.0000000000013664821 * (Z_1 * Z_2) - 246.403026669980160000000000^5 + \\
 & 0.000000000000276876 * (Z_1 * Z_2) - 246.403026669980160000000000^6 + \\
 & -0.0000000000000000812 * (Z_1 * Z_2) - 246.403026669980160000000000^7 + \\
 & -0.0000000000000000004 * (Z_1 * Z_2) - 246.403026669980160000000000^8 + \\
 & 0.0000000000000000000 * (Z_1 * Z_2) - 246.403026669980160000000000^9 + \\
 & -0.0000000000000000000 * (Z_1 * Z_2) - 246.403026669980160000000000^{10} + \\
 & -0.0000000000000000000 * (Z_1 * Z_2) - 246.403026669980160000000000^{11} + \\
 & 0.0000000000000000000 * (Z_1 * Z_2) - 246.403026669980160000000000^{12} + \\
 & -0.0000000000000000000 * (Z_1 * Z_2) - 246.403026669980160000000000^{13} + \\
 & 0.0000000000000000000 * (Z_1 * Z_2) - 246.403026669980160000000000^{14} + \\
 & -0.0000000000000000000 * (Z_1 * Z_2) - 246.403026669980160000000000^{15} +
 \end{aligned}$$

R2(Coefficient of determination)=0.856954239806821390

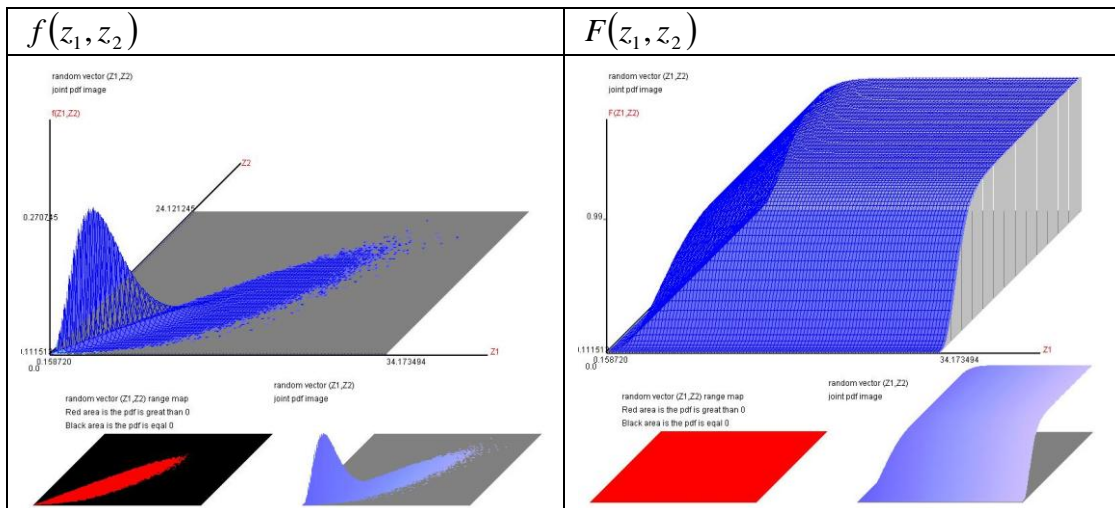


2.2) $X_1 = c \sim \text{gamma}(\alpha = 5, \beta = 1)$, $X_2, \dots, X_{14} \stackrel{iid}{\sim} \text{Arc sin}(0, c)$

$f_{X_2}(x_2), F_{X_2}(x_2)$	Coefficient
	Mathematical Mean: 0.00040 Geometrical Mean : none Harmonic Mean : none Variance : 15.00242 S.D. : 3.87330 Skewed Coef. : -0.00013 Kurtosis Coef. : 2.80092 MAD : 3.18329 Range : 52.28698 Mid_range : 1.77519 Median : 0.00050 Q1 : -2.82706 Q2 : 0.00050 Q3 : 2.82802 IQR : 5.65508 C.V. : none

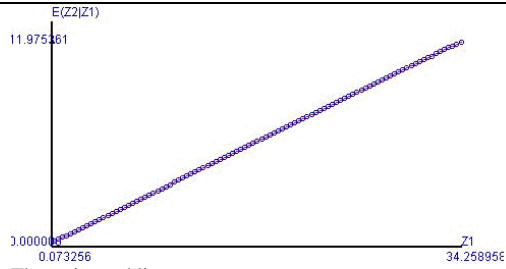
$Z_1 = X_1, Z_2 = S$ of (X_2, \dots, X_{14}) ,

$f_{Z_2}(z_2), F_{Z_2}(z_2)$	Coefficient
	Mathematical Mean: 3.51144 Geometrical Mean : 3.14362 Harmonic Mean : 2.76661 Variance : 2.66994 S.D. : 1.63400 Skewed Coef. : 0.97876 Kurtosis Coef. : 4.48795 MAD : 1.27608 Range : 20.62518 Mid_range : 10.36879 Median : 3.25297 Q1 : 2.32124 Q2 : 3.25297 Q3 : 4.42050 IQR : 2.09926 C.V. : 0.46533



$E(Z_1) = 5.0002, \text{Var}(Z_1) = 5.0002$
 $E(Z_2) = 3.5116, \text{Var}(Z_2) = 2.6700$
 $\text{Cov}(Z_1, Z_2) = 3.5115,$
 Z_1 and Z_2 correlation coefficient = 0.9611.

(Z1,E(Z2|Z1))

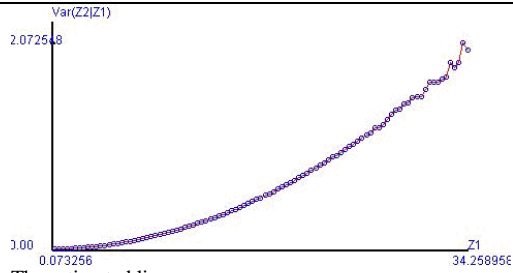


The estimated line -----

$$E(Z2|Z1) = 6.11198097443598170000 + 0.70042965747416019000*(Z1 - 0.00124726464029123460*(Z1 - 0.00159003469161689280*(Z1 - 0.00048525591750969710*(Z1 - 0.00042405888962093741*(Z1 - 0.00007343157773898046*(Z1 - 0.00005103669354866725*(Z1 - 0.00000560822205955547*(Z1 - 0.00000331248293150566*(Z1 - 0.00000024329091921887*(Z1 - 0.00000012607132049425*(Z1 - 0.00000000626399446015*(Z1 - 0.00000000289971335832*(Z1 - 0.0000000009480167686*(Z1 - 0.0000000003966870235*(Z1 - 0.0000000000077842501*(Z1 - 0.00000000000029711754*(Z1 - 0.0000000000000267194*(Z1 - 0.0000000000000093789*(Z1 - 8.70514549002525230000)^1 + 8.70514549002525230000)^2 + 8.70514549002525230000)^3 + 8.70514549002525230000)^4 + 8.70514549002525230000)^5 + 8.70514549002525230000)^6 + 8.70514549002525230000)^7 + 8.70514549002525230000)^8 + 8.70514549002525230000)^9 + 8.70514549002525230000)^10 + 8.70514549002525230000)^11 + 8.70514549002525230000)^12 + 8.70514549002525230000)^13 + 8.70514549002525230000)^14 + 8.70514549002525230000)^15 + 8.70514549002525230000)^16 + 8.70514549002525230000)^17 + 8.70514549002525230000)^18 + 8.70514549002525230000)^19$$

coefficient of determination=0.999998108277276530

(Z1, Var(Z2|Z1))

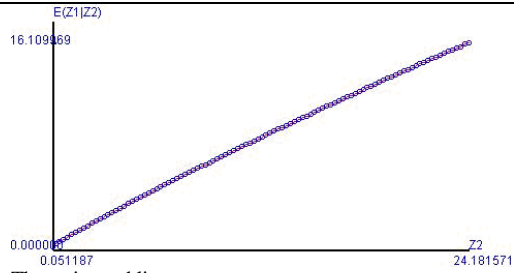


The estimated line -----

$$\begin{aligned} \text{Var}(Z2|Z1) = & 0.51573676140529301000 + \\ & 0.11448801451479085000*(Z1 - 8.70514549002525230000)^1 + \\ & 0.01212138003495510900*(Z1 - 8.70514549002525230000)^2 + \\ & 0.00451877620071172710*(Z1 - 8.70514549002525230000)^3 + \\ & -0.00291938449839790340*(Z1 - 8.70514549002525230000)^4 + \\ & -0.00154929303971584890*(Z1 - 8.70514549002525230000)^5 + \\ & 0.00062630084035397715*(Z1 - 8.70514549002525230000)^6 + \\ & 0.00024731967096158769*(Z1 - 8.70514549002525230000)^7 + \\ & -0.00006745675788799588*(Z1 - 8.70514549002525230000)^8 + \\ & -0.00002186150936722697*(Z1 - 8.70514549002525230000)^9 + \\ & 0.00000409146264232496*(Z1 - 8.70514549002525230000)^10 + \\ & 0.00000115685032398005*(Z1 - 8.70514549002525230000)^11 + \\ & -0.00000014828290134227*(Z1 - 8.70514549002525230000)^12 + \\ & -0.00000003800749204252*(Z1 - 8.70514549002525230000)^13 + \\ & 0.00000000327642990669*(Z1 - 8.70514549002525230000)^14 + \\ & 0.00000000078011673857*(Z1 - 8.70514549002525230000)^15 + \\ & -0.00000000004324543897*(Z1 - 8.70514549002525230000)^16 + \\ & -0.00000000000971986830*(Z1 - 8.70514549002525230000)^17 + \\ & 0.00000000000031320487*(Z1 - 8.70514549002525230000)^18 + \\ & 0.00000000000006718955*(Z1 - 8.70514549002525230000)^19 + \\ & -0.00000000000000095727*(Z1 - 8.70514549002525230000)^20 + \\ & -0.00000000000000019756*(Z1 - 8.70514549002525230000)^21 + \end{aligned}$$

coefficient of determination=0.999454718369340860

(Z2,E(Z1|Z2))

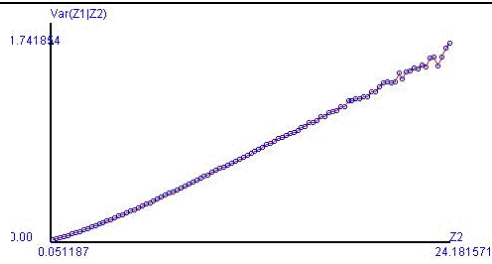


The estimated line -----

$$E(Z1|Z2) = 8.74772595039483040000 + 1.25224938162136820000*(Z2 - 0.051187) - 0.01296560918492417600*(Z2 - 0.051187)^2 - 0.00346305686980485920*(Z2 - 0.051187)^3 - 0.00118060200815506280*(Z2 - 0.051187)^4 - 0.00187621696386486290*(Z2 - 0.051187)^5 - 0.00034746061753665458*(Z2 - 0.051187)^6 - 0.00040850204823073000*(Z2 - 0.051187)^7 - 0.00005049768218068351*(Z2 - 0.051187)^8 - 0.00004863554750045296*(Z2 - 0.051187)^9 - 0.00000418548498350158*(Z2 - 0.051187)^10 - 0.00000341837676387513*(Z2 - 0.051187)^11 - 0.00000020575871484147*(Z2 - 0.051187)^12 - 0.00000014583498142429*(Z2 - 0.051187)^13 - 0.00000000590411173681*(Z2 - 0.051187)^14 - 0.00000000370678820971*(Z2 - 0.051187)^15 - 0.0000000009086791902*(Z2 - 0.051187)^16 - 0.0000000005154203800*(Z2 - 0.051187)^17 - 0.0000000000057724727*(Z2 - 0.051187)^18 - 0.00000000000030126531*(Z2 - 0.051187)^19 + 6.38541304087475850000*(Z2 - 0.051187)^1 + 6.38541304087475850000*(Z2 - 0.051187)^2 + 6.38541304087475850000*(Z2 - 0.051187)^3 + 6.38541304087475850000*(Z2 - 0.051187)^4 + 6.38541304087475850000*(Z2 - 0.051187)^5 + 6.38541304087475850000*(Z2 - 0.051187)^6 + 6.38541304087475850000*(Z2 - 0.051187)^7 + 6.38541304087475850000*(Z2 - 0.051187)^8 + 6.38541304087475850000*(Z2 - 0.051187)^9 + 6.38541304087475850000*(Z2 - 0.051187)^10 + 6.38541304087475850000*(Z2 - 0.051187)^11 + 6.38541304087475850000*(Z2 - 0.051187)^12 + 6.38541304087475850000*(Z2 - 0.051187)^13 + 6.38541304087475850000*(Z2 - 0.051187)^14 + 6.38541304087475850000*(Z2 - 0.051187)^15 + 6.38541304087475850000*(Z2 - 0.051187)^16 + 6.38541304087475850000*(Z2 - 0.051187)^17 + 6.38541304087475850000*(Z2 - 0.051187)^18 + 6.38541304087475850000*(Z2 - 0.051187)^19$$

coefficient of determination=0.999996375453390150

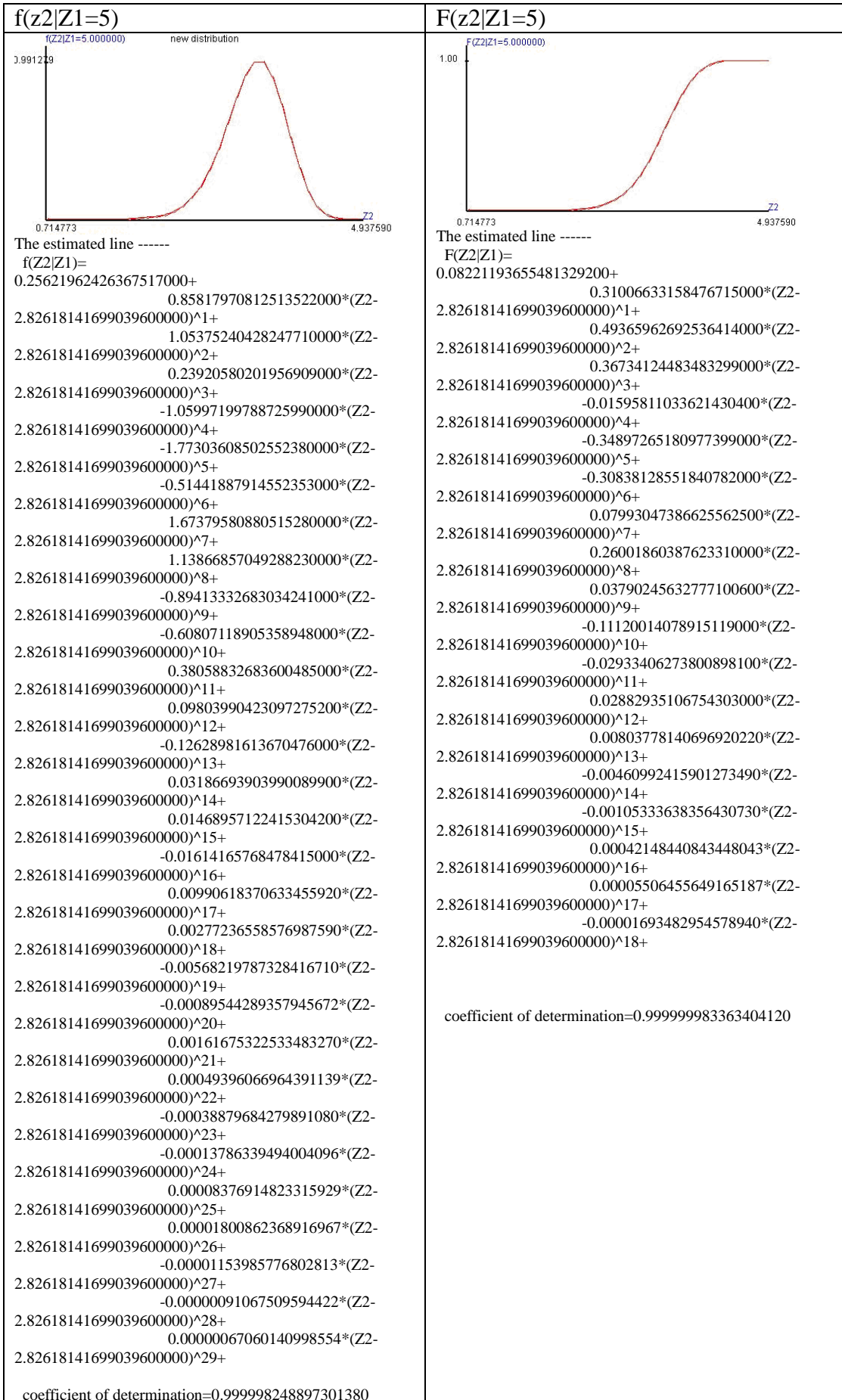
(Z2, Var(Z1|Z2))

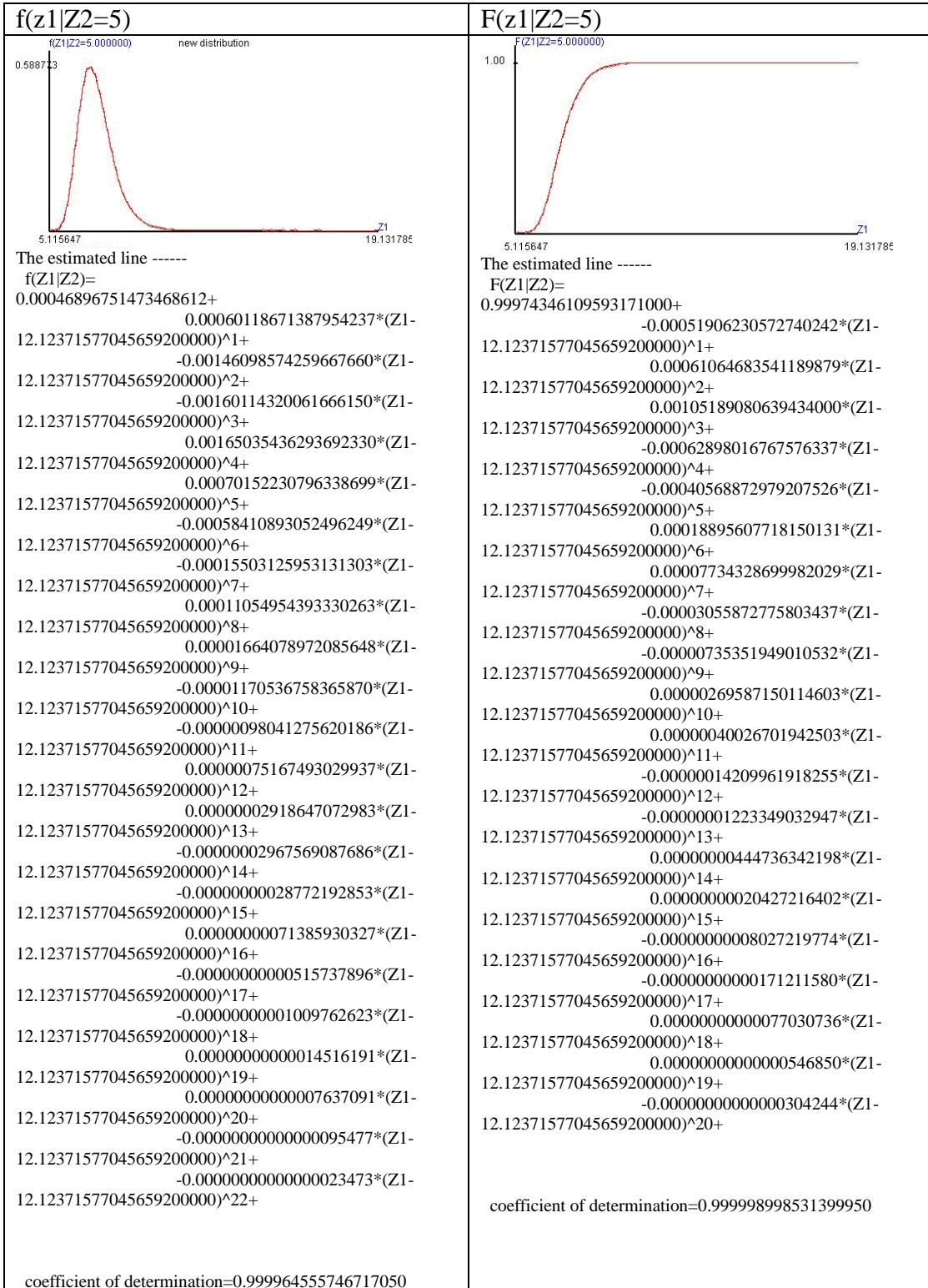


The estimated line -----

$$\begin{aligned} \text{Var}(Z1|Z2) = & 0.77078126600827090000 + \\ & 0.15327675178035349000*(Z2- \\ & 0.01451776368776336300*(Z2- \\ & -0.01618250964208556300*(Z2- \\ & -0.01434820104623213400*(Z2- \\ & 0.00721490473260644190*(Z2- \\ & 0.00533910395461134610*(Z2- \\ & -0.00149839968045384350*(Z2- \\ & -0.00097783451928989962*(Z2- \\ & 0.00017007603505669877*(Z2- \\ & 0.00010134156309504760*(Z2- \\ & -0.00001140507682703684*(Z2- \\ & -0.00000633709106523384*(Z2- \\ & 0.00000046391746743170*(Z2- \\ & 0.00000024379416574405*(Z2- \\ & -0.00000001123661947161*(Z2- \\ & -0.00000000564270069559*(Z2- \\ & 0.00000000014893147668*(Z2- \\ & 0.00000000007204514795*(Z2- \\ & -0.00000000000083072312*(Z2- \\ & -0.00000000000038969522*(Z2- \\ & 6.38541304087475850000)^1+ \\ & 6.38541304087475850000)^2+ \\ & 6.38541304087475850000)^3+ \\ & 6.38541304087475850000)^4+ \\ & 6.38541304087475850000)^5+ \\ & 6.38541304087475850000)^6+ \\ & 6.38541304087475850000)^7+ \\ & 6.38541304087475850000)^8+ \\ & 6.38541304087475850000)^9+ \\ & 6.38541304087475850000)^10+ \\ & 6.38541304087475850000)^11+ \\ & 6.38541304087475850000)^12+ \\ & 6.38541304087475850000)^13+ \\ & 6.38541304087475850000)^14+ \\ & 6.38541304087475850000)^15+ \\ & 6.38541304087475850000)^16+ \\ & 6.38541304087475850000)^17+ \\ & 6.38541304087475850000)^18+ \\ & 6.38541304087475850000)^19+ \\ & 6.38541304087475850000)^20+ \end{aligned}$$

coefficient of determination=0.999442512736476220



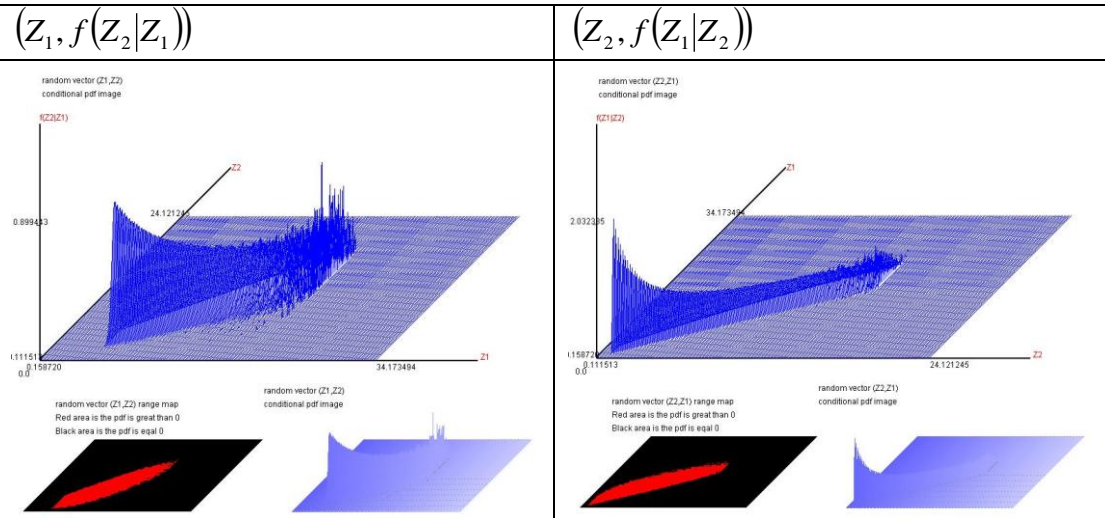


F(Z1,Z2) estimated line

The estimated line -----

$$\begin{aligned}
 F(Z_1, Z_2) = & -0.13448560020331968000 + \\
 & 0.03166131774282510100 * Z_1 * Z_2^1 + \\
 & -0.00185248930509343550 * Z_1 * Z_2^2 + \\
 & 0.00003958625158498449 * Z_1 * Z_2^3 + \\
 & -0.00111671505114246950 * Z_1 * Z_2^4 + \\
 & 0.00003025383056875011 * Z_1 * Z_2^5 + \\
 & 0.00001734950257030118 * Z_1 * Z_2^6 + \\
 & -0.0000002024166033109 * Z_1 * Z_2^7 + \\
 & -0.00000014670216870065 * Z_1 * Z_2^8 + \\
 & -0.00402729247999011890 * Z_1 * Z_2^9 + \\
 & 0.00068290424588102194 * Z_1 * Z_2^{10} + \\
 & -0.00001383620838116273 * Z_1 * Z_2^{11} + \\
 & 0.00000034874561390553 * Z_1 * Z_2^{12} + \\
 & 0.00000000000000000000 * Z_1 * Z_2^{13} + \\
 & -0.00000175231968118153 * Z_1 * Z_2^{14} + \\
 & 0.00000016716979683038 * Z_1 * Z_2^{15} + \\
 & -0.00000000433067572829 * Z_1 * Z_2^{16} + \\
 & 0.00000000000000000000 * Z_1 * Z_2^{17} + \\
 & -0.00000000000000000000 * Z_1 * Z_2^{18} + \\
 & -0.00000000000000000000 * Z_1 * Z_2^{19} + \\
 & -0.00000000000000000000 * Z_1 * Z_2^{20} + \\
 & 0.00000000000000000000 * Z_1^2 * Z_2^1 + \\
 & 0.00000000000000000000 * Z_1^2 * Z_2^2 +
 \end{aligned}$$

R2(Coefficient of determination)=0.941226731419179560

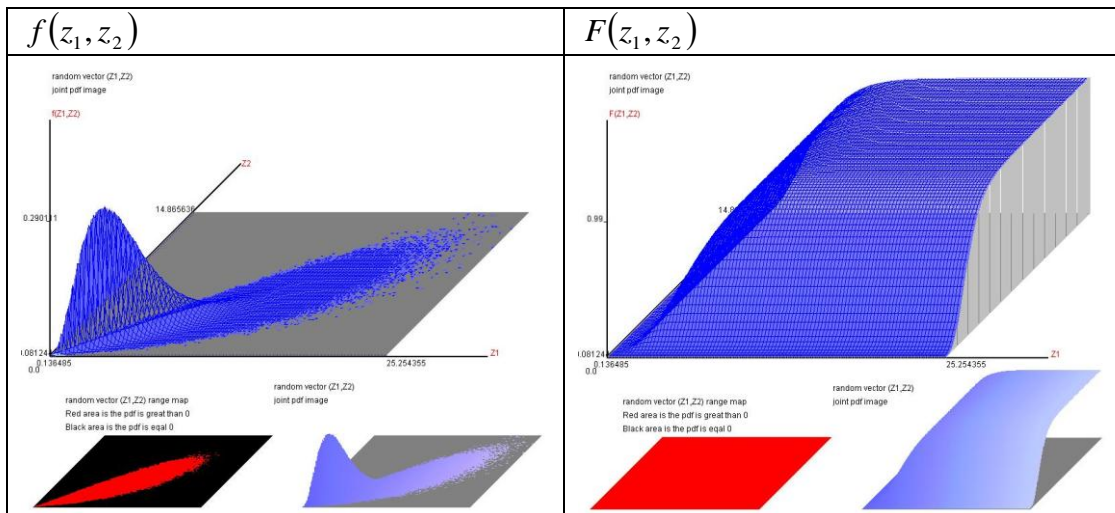


2.3) $X_1 = c \sim \text{gamma}(\alpha = 5, \beta = 1)$, $X_2, \dots, X_{14} \stackrel{iid}{\sim} \text{Semi_circle}(0, c)$

$f_{X_2}(x_2), F_{X_2}(x_2)$	Coefficient
	Mathematical Mean: -0.00033 Geometrical Mean : none Harmonic Mean : none Variance : 7.49947 S.D. : 2.73852 Skewed Coef. : -0.00016 Kurtosis Coef. : 3.73243 MAD : 2.12203 Range : 45.42861 Mid_range : 1.46183 Median : -0.00031 Q1 : -1.71292 Q2 : -0.00031 Q3 : 1.71205 IQR : 3.42498 C.V. : none

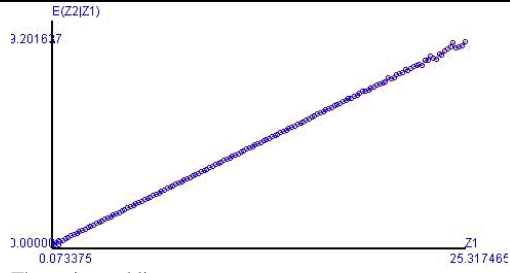
$Z_1 = X_1, Z_2 = S$ of (X_2, \dots, X_{14}) ,

$f_{Z_2}(z_2), F_{Z_2}(z_2)$	Coefficient
	Mathematical Mean: 2.47058 Geometrical Mean : 2.20037 Harmonic Mean : 1.92593 Variance : 1.39480 S.D. : 1.18102 Skewed Coef. : 1.03877 Kurtosis Coef. : 4.70942 MAD : 0.91906 Range : 14.85869 Mid_range : 7.47344 Median : 2.27504 Q1 : 1.61159 Q2 : 2.27504 Q3 : 3.11620 IQR : 1.50461 C.V. : 0.47803



$E(Z_1) = 4.9999$, $\text{Var}(Z_1) = 5.0002$
 $E(Z_2) = 2.4706$, $\text{Var}(Z_2) = 1.3948$
 $\text{Cov}(Z_1, Z_2) = 2.4707$,
 Z_1 and Z_2 correlation coefficient = 0.9356.

(Z1,E(Z2|Z1))

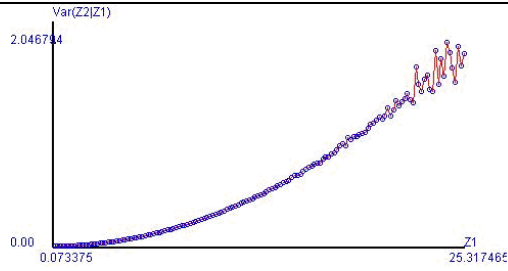


The estimated line -----

$$E(Z2|Z1) = 4.65425588528160010000 + 0.48663900625081169000*(Z1 - 9.41368816056780840000)^1 - 0.00862838549073785540*(Z1 - 9.41368816056780840000)^2 + 0.00665416426409137780*(Z1 - 9.41368816056780840000)^3 - 0.00390270925709046420*(Z1 - 9.41368816056780840000)^4 - 0.00163719840089271430*(Z1 - 9.41368816056780840000)^5 - 0.00067066425981465727*(Z1 - 9.41368816056780840000)^6 - 0.00018302293343452902*(Z1 - 9.41368816056780840000)^7 - 0.00005893035813642200*(Z1 - 9.41368816056780840000)^8 - 0.00001096082331258907*(Z1 - 9.41368816056780840000)^9 - 0.00000297960454531676*(Z1 - 9.41368816056780840000)^10 - 0.00000037980831647452*(Z1 - 9.41368816056780840000)^11 + 0.00000009133099609926*(Z1 - 9.41368816056780840000)^12 - 0.00000000783611786023*(Z1 - 9.41368816056780840000)^13 - 0.00000000171969853635*(Z1 - 9.41368816056780840000)^14 - 0.0000000009478701844*(Z1 - 9.41368816056780840000)^15 + 0.00000000001939636906*(Z1 - 9.41368816056780840000)^16 - 0.0000000000061962804*(Z1 - 9.41368816056780840000)^17 - 0.00000000000012003586*(Z1 - 9.41368816056780840000)^18 + 0.00000000000000168804*(Z1 - 9.41368816056780840000)^19 - 0.0000000000000000031301*(Z1 - 9.41368816056780840000)^20$$

coefficient of determination=0.999892898611111300

(Z1, Var(Z2|Z1))

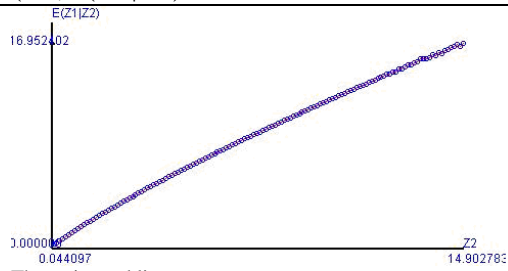


The estimated line -----

$$\begin{aligned} \text{Var}(Z2|Z1) = & 0.51683294525719248000 + \\ & 0.10351599266869016000*(Z1- \\ & -0.00223463436122983690*(Z1- \\ & 0.00521281718101818110*(Z1- \\ & 0.00420098239555954930*(Z1- \\ & -0.00146712910469659620*(Z1- \\ & -0.00085585157648893073*(Z1- \\ & 0.00018845208180096051*(Z1- \\ & 0.00008942833301261999*(Z1- \\ & -0.00001301845324119810*(Z1- \\ & -0.00000540128104375981*(Z1- \\ & 0.00000052953542874212*(Z1- \\ & 0.00000020095096964212*(Z1- \\ & -0.00000001326637837692*(Z1- \\ & -0.00000000474427758190*(Z1- \\ & 0.00000000020678975116*(Z1- \\ & 0.00000000007116878527*(Z1- \\ & -0.0000000000195129177*(Z1- \\ & -0.00000000000065649734*(Z1- \\ & 0.0000000000001018972*(Z1- \\ & 0.00000000000000339312*(Z1- \\ & -0.0000000000000002257*(Z1- \\ & -0.0000000000000000752*(Z1- \\ & 9.41368816056780840000)^1+ \\ & 9.41368816056780840000)^2+ \\ & 9.41368816056780840000)^3+ \\ & 9.41368816056780840000)^4+ \\ & 9.41368816056780840000)^5+ \\ & 9.41368816056780840000)^6+ \\ & 9.41368816056780840000)^7+ \\ & 9.41368816056780840000)^8+ \\ & 9.41368816056780840000)^9+ \\ & 9.41368816056780840000)^10+ \\ & 9.41368816056780840000)^11+ \\ & 9.41368816056780840000)^12+ \\ & 9.41368816056780840000)^13+ \\ & 9.41368816056780840000)^14+ \\ & 9.41368816056780840000)^15+ \\ & 9.41368816056780840000)^16+ \\ & 9.41368816056780840000)^17+ \\ & 9.41368816056780840000)^18+ \\ & 9.41368816056780840000)^19+ \\ & 9.41368816056780840000)^20+ \\ & 9.41368816056780840000)^21+ \\ & 9.41368816056780840000)^22+ \end{aligned}$$

coefficient of determination=0.993413379739551570

$(Z_2, E(Z_1|Z_2))$

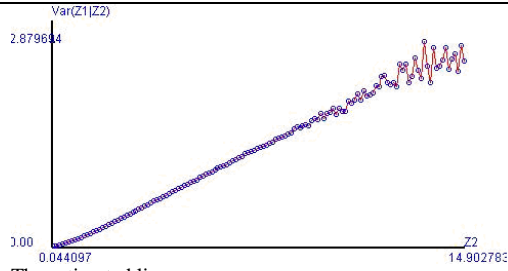


The estimated line -----

$$E(Z_1|Z_2) = 9.52001143626330300000 + 1.60862296400591730000*(Z_2 - 0.044097) - 0.08774050545616773900*(Z_2 - 0.044097)^2 - 0.04857180453836917900*(Z_2 - 0.044097)^3 + 0.08453328426548978300*(Z_2 - 0.044097)^4 - 0.05209318269044160800*(Z_2 - 0.044097)^5 - 0.04767246675692149400*(Z_2 - 0.044097)^6 - 0.02399545349180698400*(Z_2 - 0.044097)^7 + 0.01356764257798204200*(Z_2 - 0.044097)^8 - 0.00597446749452501540*(Z_2 - 0.044097)^9 - 0.00219808118731634750*(Z_2 - 0.044097)^10 + 0.00087995830108411610*(Z_2 - 0.044097)^11 - 0.00021470825224412238*(Z_2 - 0.044097)^12 + 0.00008005416020751000*(Z_2 - 0.044097)^13 - 0.00001286478578244044*(Z_2 - 0.044097)^14 + 0.00000453938724831460*(Z_2 - 0.044097)^15 - 0.00000046214541818412*(Z_2 - 0.044097)^16 + 0.00000015603881919901*(Z_2 - 0.044097)^17 - 0.00000000912834482048*(Z_2 - 0.044097)^18 + 0.00000000297262686688*(Z_2 - 0.044097)^19 - 0.00000000007617488193*(Z_2 - 0.044097)^20 + 0.00000000002406467083*(Z_2 - 0.044097)^21 + 5.09605008283897030000*(Z_2 - 0.044097)^2 + 5.09605008283897030000*(Z_2 - 0.044097)^3 + 5.09605008283897030000*(Z_2 - 0.044097)^4 + 5.09605008283897030000*(Z_2 - 0.044097)^5 + 5.09605008283897030000*(Z_2 - 0.044097)^6 + 5.09605008283897030000*(Z_2 - 0.044097)^7 + 5.09605008283897030000*(Z_2 - 0.044097)^8 + 5.09605008283897030000*(Z_2 - 0.044097)^9 + 5.09605008283897030000*(Z_2 - 0.044097)^10 + 5.09605008283897030000*(Z_2 - 0.044097)^11 + 5.09605008283897030000*(Z_2 - 0.044097)^12 + 5.09605008283897030000*(Z_2 - 0.044097)^13 + 5.09605008283897030000*(Z_2 - 0.044097)^14 + 5.09605008283897030000*(Z_2 - 0.044097)^15 + 5.09605008283897030000*(Z_2 - 0.044097)^16 + 5.09605008283897030000*(Z_2 - 0.044097)^17 + 5.09605008283897030000*(Z_2 - 0.044097)^18 + 5.09605008283897030000*(Z_2 - 0.044097)^19 + 5.09605008283897030000*(Z_2 - 0.044097)^20 + 5.09605008283897030000*(Z_2 - 0.044097)^21$$

coefficient of determination=0.999962751140503370

(Z2, Var(Z1|Z2))



The estimated line -----

$$\text{Var}(Z1|Z2) = 1.37802768465189730000 +$$

$0.27446327472051735000*(Z2-$ $0.01469623215962201400*(Z2-$ $0.02791430000536365700*(Z2-$ $-0.01541623275261372300*(Z2-$ $-0.01853693374550857700*(Z2-$ $0.00520589423831552270*(Z2-$ $0.00522141702009548680*(Z2-$ $-0.00098288168373983353*(Z2-$ $-0.00075366764056639113*(Z2-$ $0.00013011681585339829*(Z2-$ $0.00006151052546288227*(Z2-$ $-0.00001243884207724477*(Z2-$ $-0.00000292492657305576*(Z2-$ $0.00000080174292804713*(Z2-$ $0.0000007868744415947*(Z2-$ $-0.00000003199046894053*(Z2-$ $-0.00000000106743107476*(Z2-$ $0.00000000070383125023*(Z2-$ $0.00000000000516578827*(Z2-$ $-0.00000000000649095616*(Z2-$	$5.09605008283897030000)^1+$ $5.09605008283897030000)^2+$ $5.09605008283897030000)^3+$ $5.09605008283897030000)^4+$ $5.09605008283897030000)^5+$ $5.09605008283897030000)^6+$ $5.09605008283897030000)^7+$ $5.09605008283897030000)^8+$ $5.09605008283897030000)^9+$ $5.09605008283897030000)^10+$ $5.09605008283897030000)^11+$ $5.09605008283897030000)^12+$ $5.09605008283897030000)^13+$ $5.09605008283897030000)^14+$ $5.09605008283897030000)^15+$ $5.09605008283897030000)^16+$ $5.09605008283897030000)^17+$ $5.09605008283897030000)^18+$ $5.09605008283897030000)^19+$ $5.09605008283897030000)^20+$
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coefficient of determination=0.993771994883852710

