YUKI Algorithm test functions and images

$f_1(\mathrm{x}) = f(x_1, x_2, \ldots, x_n) = \sum_{i=1}^{n} x_i^2$	Sphere	[-5.12 5.12]	30
$f_2(\mathrm{x}) = f(x_1, \ldots, x_n) = \sum_{i=1}^{n} i x_i^2$	Powell Sum	[-1 1]	30
$f_3(\mathrm{x}) = x_1 + d(\sum_{i=2}^{n} x_i^2)^{\alpha}$	Powell Sum	[-5 5]	30
$f_4(x) = \sum_{i=1}^{29} (x_i^2)^{(x_{i+1}^2+1)} + (x_{i+1}^2)^{(x_i^2+1)}$	Brown	[-4 4]	30
$f_5(\mathrm{x}) = f(x_1, \ldots, x_{30}) = -exp(-0.5 \sum_{i=1}^{30} x_i^2)$	Exponential	[-2 2]	30
$f_6(x) = f(x_1, \ldots, x_{30}) = exp(-\sum_{i=1}^{30} (x_i/15)^{10}) - 2exp\left(-\sum_{i=1}^{30} x_i^2\right) \prod_{i=1}^{30} cos^2(x_i)$	Xin-She Yang N. 3	[-10 10]	30
$f_7(x) = f_7(x_1, \ldots, x_{30}) = \sum_{i=1}^{30} x_i^2 + (\sum_{i=1}^{30} 0.5 i x_i)^2 + (\sum_{i=1}^{30} 0.5 i x_i)^4$	Zakharov	[-10 10]	30
$f_8(x) = f(x_1, \ldots, x_{30}) = \sum_{i=1}^{30} \lvert x_i \rvert$	Schwefel 2.20	[-100 100]	30
$f_9(x) = f(x_1, \ldots, x_{30}) = \max_{i=1,\ldots,30} \lvert x_i \rvert$	Schwefel 2.21	[-100 100]	30
$f_{10}(x) = f(x_1, \ldots, x_{30}) = \sum_{i=1}^{30} \lvert x_i \rvert + \prod_{i=1}^{30} \lvert x_i \rvert$	Schwefel 2.22	[-10 10]	30

$f_{11}(x) = f_{11}(x_1, \ldots, x_{30}) = \sum_{i=1}^{29} [100(x_{i+1} - {x_i}^2)^2 + (x_i - 1)^2]$	Rosenbrock	[-30 30]	30
$f_{12}(x) = f_{12}(x_1, x_2, \ldots, x_{30}) = \sum_{i=1}^{30} -x_i sin(\sqrt{\lvert x_i \rvert})$	Schwefel	[-500 500]	30
$f_{13}(x) = f_{13}(x_1, x_2, \ldots, x_{30}) = \sum_{i=1}^{30} [{x_i}^2 - 10cos(2\pi x_i) + 10]$	Rastrigin	[-5.12 5.12]	30
$f_{14}(x) = f(x_1, \ldots, x_{30}) = (\sum_{i=1}^{30} \lvert x_i \rvert) exp(-\sum_{i=1}^{30} sin(x_i^2))$	Xin-She Yang N. 2	[-6.28 6.28]	30
$f_{15}(x) = f(x_1, \ldots, x_{30}) = (\sum_{i=1}^{30} sin^2(x_i) - e^{-\sum_{i=1}^{30} x_i^2}) e^{-\sum_{i=1}^{30} sin^2\sqrt{\lvert x_i \rvert}}$	Xin-She Yang N. 4	[-10 10]	30
$f_{16}(x) = [(\lvert\lvert \mathrm{x} \rvert\rvert^2 - 30)^2]^{\alpha} + \frac{1}{n}(\frac{1}{2}\lvert\lvert \mathrm{x} \rvert\rvert^2 + \sum_{i=1}^{30} x_i) + \frac{1}{2}$	Happy Cat	[-2 2]	30
$f_{17}(x) = f(x_1 \ldots x_{30}) = 1 + \sum_{i=1}^{30} sin^2(x_i) - 0.1e^{(\sum_{i=1}^{30} x_i^2)}$	Periodic	[-10 10]	30
$f_{18}(x) = f(x_1, \ldots, x_{30}) = \sum_{i=1}^{30} i x_i^4 + \mathrm{random}[0,1]$	Quartic	[-1.28 1.28]	30

$f_{19}(x) = f(x_1, \dots, x_{30}) = \sum_{i=1}^{30} \sum_{j=1}^{5} jsin((j+1)x_i + j)$	Shubert 3	[-10 10]	30
$f_{20}(x) = f(x_1, \dots, x_{30}) = 1 - cos(2\pi\sqrt{\sum_{i=1}^{D} x_i^2}) + 0.1\sqrt{\sum_{i=1}^{D} x_i^2}$	Salomon	[-4 4]	30

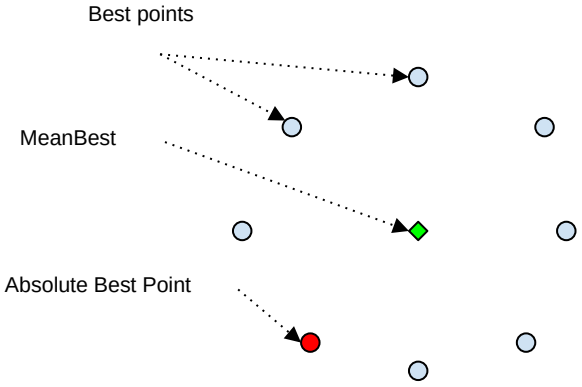
$f_{21}(x,y) = 2x^2 - 1.05x^4 + \frac{x^6}{6} + xy + y^2$	Three-Hump Camel	[-2 2]	2
$f_{22}(x,y) = -\frac{1+cos(12\sqrt{x^2+y^2})}{(0.5(x^2+y^2)+2)}$	Drop-Wave	[-5 5]	2
$f_{23}(x,y) = 100(y - x^3)^2 + (1-x)^2$	Leon	[-2 2]	2
$f_{24}(x,y) = (x + 2y - 7)^2 + (2x + y - 5)^2$	Booth	[-10 10]	2
$f_{25}(x,y) = 0.26(x^2 + y^2) - 0.48xy$	Matyas	[-10 10]	2
$f_{26}(x,y) = (x+10)^2 + (y+10)^2 + e^{-x^2-y^2}$	Brent	[-20 0]	2
$f_{27}(x,y) = 0.5 + \frac{sin^2(x^2+y^2)^2 - 0.5}{(1+0.001(x^2+y^2))^2}$	Schaffer N. 1	[-50 50]	2
$f_{28}(x,y) = -200e^{-0.2\sqrt{x^2+y^2}}$	Ackley N. 2	[-30 30]	2
$f_{29}(x,y) = x^2 + 2y^2 - 0.3cos(3\pi x) - 0.4cos(4\pi y) + 0.7$	Bohachevsky n N. 1	[-100 100]	2
$f_{30}(x,y) = 0.5 + \frac{cos^2(sin(\lvert x^2-y^2\rvert))-0.5}{(1+0.001(x^2+y^2))^2}$	Schaffer N. 4	[-100 100]	2

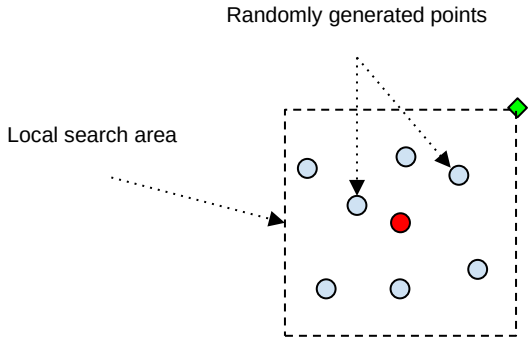
$f_{31}(x,y) = -\frac{sin^2(x-y)sin^2(x+y)}{\sqrt{x^2+y^2}}$	Keane	[-10 10]	2
$f_{32}(x,y) = sin^2(3\pi x) + (x-1)^2(1+sin^2(3\pi y)) + (y-1)^2(1+sin^2(2\pi y))$	Levi N. 13	[-10 10]	2
$f_{33}(x,y) = 100\sqrt{\lvert y - 0.01x^2\rvert} + 0.01\lvert x+10\rvert$	Bukin N. 6	[-15 5]	2
$f_{34}(x,y) = -\lvert sin(x)cos(y)exp(\lvert 1 - \frac{\sqrt{x^2+y^2}}{\pi}\rvert)\rvert$	Holder-Table	[-10 10]	2
$f_{35}(x,y) = -0.0001(\lvert sin(x)sin(y)exp(\lvert 100 - \frac{\sqrt{x^2+y^2}}{\pi}\rvert)\rvert + 1)^{0.1}$	Cross-in-Tray	[-10 10]	2
$f_{36}(x,y,z) = \frac{4}{3}(x^2 + y^2 - xy)^{0.75} + z$	Wolfe	[0 2]	2
$f_{37}(x,y) = x^2 + y^2 + 25(sin^2(x) + sin^2(y))$	Egg Crate	[-20 20]	2
$f_{38}(x,y) = sin(x+y) + (x-y)^2 - 1.5x + 2.5y + 1$	McCormick	[-1.5 4]	2
$f_{39}(x,y) = 10^5x^2 + y^2 - (x^2+y^2)^2 + 10^{-5}(x^2+y^2)^4$	Deckkers-Aarts	[-20 20]	2
$f_{40}(x,y) = \lvert x^2 + y^2 + xy\rvert + \lvert sin(x)\rvert + \lvert cos(y)\rvert$	Bartels Conn	[-500 500]	2

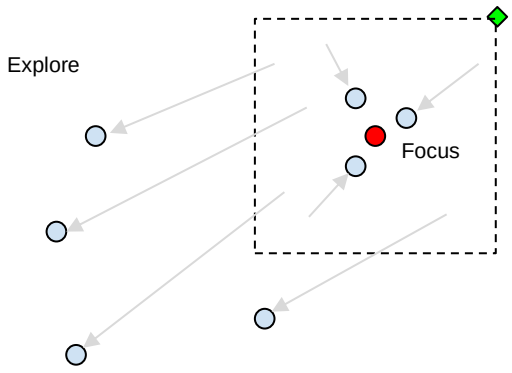
$f_{41} = 1e-3\left(\begin{Bmatrix} f_1 = \ Sphere \ \ Function \\ f_2 = Griewank \ Function \\ f_3 = Griewank \ Function \end{Bmatrix}\right)$ bias = [100,100,200] σ = [10,20,10] λ = [0.2,1,0.1]	[-5 5]	2
$f_{42} = 1e-3\left(\begin{Bmatrix} f_1 = \ \ Ackley \ Function \\ f_2 = \ Weierstrass \ Function \\ f_3 = FEF8F2 \ Function \end{Bmatrix}\right)$ bias = [0,100,200] σ = [10,30,10] λ = [1,10,20]	[-5 5]	2
$f_{43} = e-3\left(\begin{Bmatrix} f_1 = \ Sphere \ Function \\ f_2 = \ Griewank \ Function \\ f_3 = Griewank \ Function \\ f_4 = Ackley \ Function \end{Bmatrix}\right)$ bias = [100,200,200,100] σ = [10,10,10,10] λ = [0.5,1,0.2,0.5]	[-5 5]	2
$f_{44} = e-4\left(\begin{Bmatrix} f_1 = FEF8F2 \ Function \\ f_2 = FEF8F2 \ Function \\ f_3 = Weierstrass \ Function \\ f_4 = Weierstrass \ Function \end{Bmatrix}\right)$ bias = [100,200,200,100] σ = [10,20,40,20] λ = [0.1,10,20,20]	[-5 5]	2
$f_{45} = e-3\left(\begin{Bmatrix} f_1 = \ Griewank \ Function \\ f_2 = Griewank \ Function \\ f_3 = Weierstrass \ Function \\ f_4 = Weierstrass \ Function \\ f_5 = \ Sphere \ \ Function \\ f_6 = \ Sphere \ \ Function \end{Bmatrix}\right)$ bias = [0,100,200,300,200,300] σ = [40,20,30,40,10,10] λ = [1,0.5,2,2,0.1,0.1]	[-5 5]	2

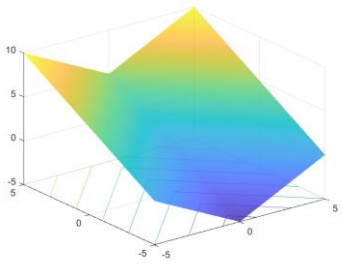
$f_{46} = e - 3\left(\begin{Bmatrix} f_1 = FEF8F2\ Function \\ f_2 = FEF8F2\ Function \\ f_3 = Weierstrass\ Function \\ f_4 = Weierstrass\ Function \\ f_5 = Griewank\ \ Function \\ f_6 = \ Griewank\ \ Function \end{Bmatrix}\right)$ bias = [0,100,200,300,200,300] σ = [1,1,2,10,10,20] λ = [0.25,0.1,2,1,2,5]	[-5 5]	2
$f_{47} = e - 3\left(\begin{Bmatrix} f_1 = \ Rastrigin\ Function \\ f_2 = Rastrigin\ Function \\ f_3 = Griewank\ Function \\ f_4 = Griewank\ Function \\ f_5 = \ Sphere\ \ Function \\ f_6 = Sphere\ \ Function \\ f_7 = Weierstrass\ Function \\ f_8 = Weierstrass\ Function \end{Bmatrix}\right)$ bias = [0,100,200,300,200,300,200,100] σ = [20,20,10,10,10,10,20,20] λ = [0.2,0.9,0.2,0.9,0.2,0.2,0.9,0.9]	[-5 5]	2
$f_{48} = e - 3\left(\begin{Bmatrix} f_1 = \ Rastrigin\ Function \\ f_2 = Rastrigin\ Function \\ f_3 = FEF8F2\ \ Function \\ f_4 = FEF8F2\ \ Function \\ f_5 = \ Weierstrass\ \ Function \\ f_6 = \ Weierstrass\ \ Function \\ f_7 = Griewank\ Function \\ f_8 = Griewank\ Function \end{Bmatrix}\right)$ bias = [0,100,200,200,200,500,500,100] σ = [20,20,10,10,10,10,20,20] λ = [0.9,0.9,0.5,0.5,0.5,0.5,0.9,0.9]	[-5 5]	2

$f_{49} = e - 3\left(\begin{Bmatrix} f_1 = \ Rastrigin\ Function \\ f_2 = Rastrigin\ Function \\ f_3 = Weierstrass\ \ Function \\ f_4 = Weierstrass\ \ Function \\ f_5 = Griewank\ \ Function \\ f_6 = \ Griewank\ \ Function \\ f_7 = Ackley\ Function \\ f_8 = Ackley\ Function \\ f_9 = Sphere\ Function \\ f_{10} = Shere\ Function \end{Bmatrix}\right)$ bias = [0,100,200,300,200,300,300,400,400,500] σ = [1,1,1,10,10,2,20,20,10,2] λ = [1,1,10,10,0.2,0.2,0.5,0.5,0.1,0.1]	[-5 5]	2
$f_{50} = e - 18\left(\begin{Bmatrix} f_1 = \ FEF8F2\ Function \\ f_2 = FEF8F2\ Function \\ f_3 = Sphere\ \ Function \\ f_4 = Sphere\ \ Function \\ f_5 = Griewank\ \ Function \\ f_6 = \ Griewank\ \ Function \\ f_7 = Ackley\ Function \\ f_8 = Ackley\ Function \\ f_9 = Weierstrass\ \ Function \\ f_{10} = Weierstrass\ \ Function \end{Bmatrix}\right)$ bias = [0,100,200,300,200,300,300,100,100,100] σ = [1,1,1,2,2,2,1,2,2,1] λ = [0.2,0.5,0.1,0.5,0.5,0.1,0.5,0.5,0.2,0.2]	[-5 5]	2


Best points
MeanBest
Absolute Best Point


Randomly generated points
Local search area


Explore
Focus



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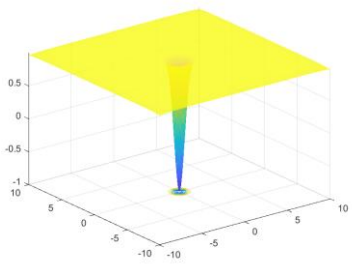

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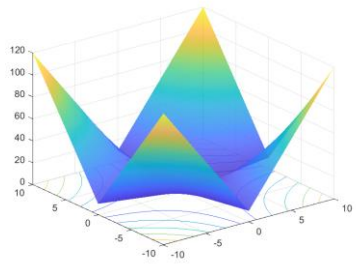

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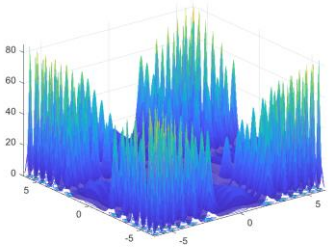

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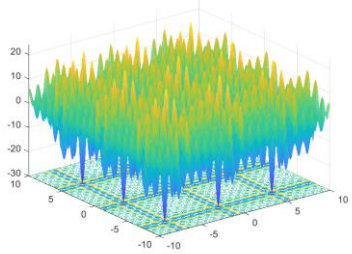

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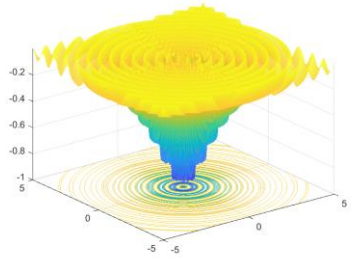

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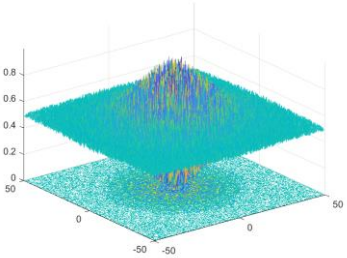

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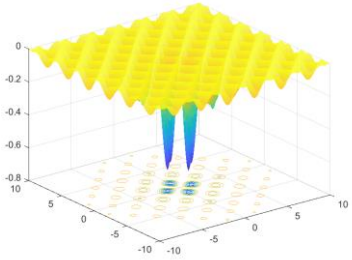

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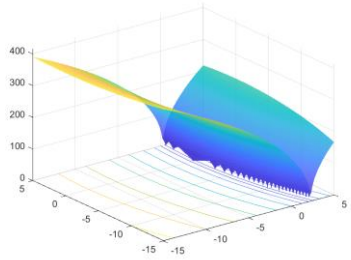

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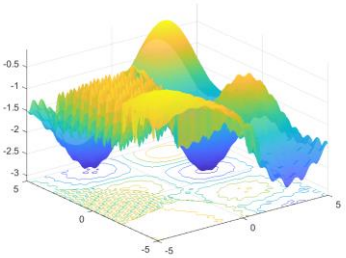

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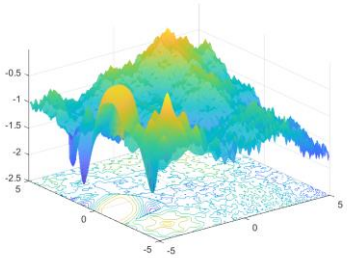

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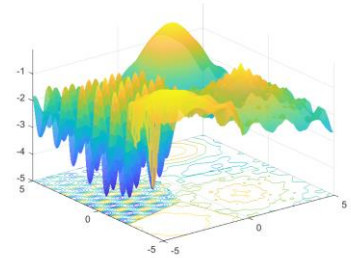

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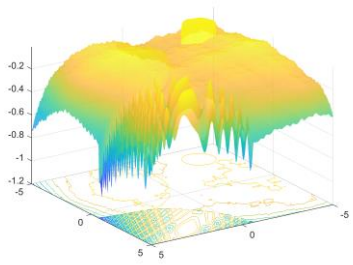
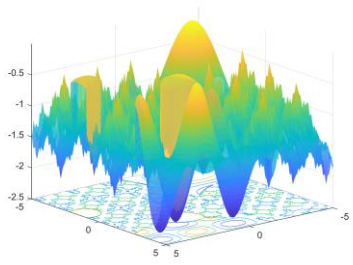
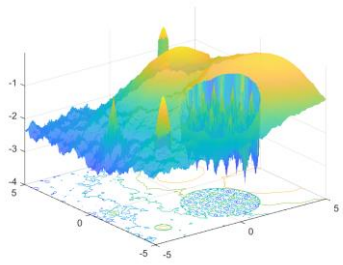
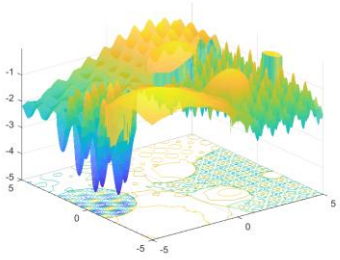
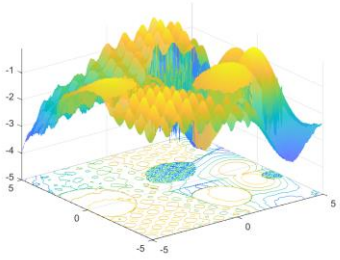
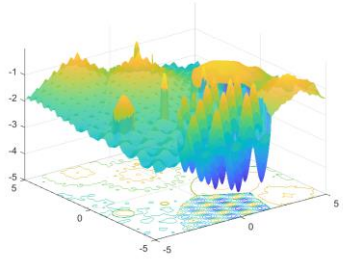
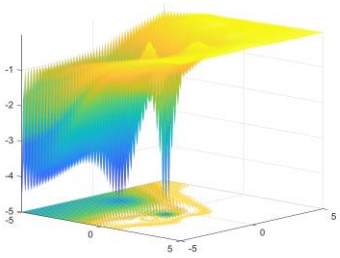
 F44	 F45	 F46
 F47	 F48	 F49
	 F50	