

BBOB-2013, Session 2: Wrap-Up

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INRIA Lille – Nord Europe

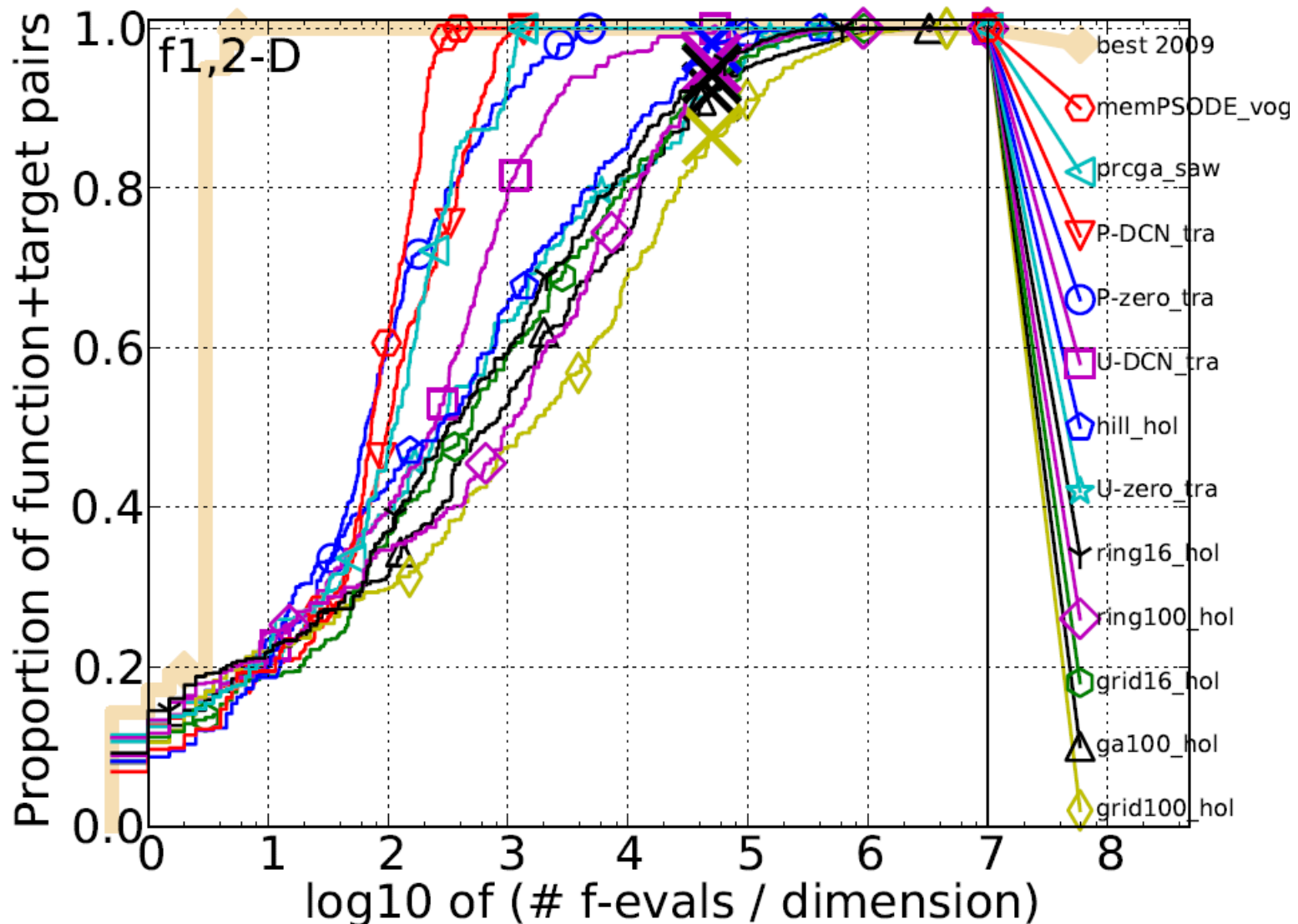
July 6, 2013

BBOB-2013 @ GECCO in Amsterdam, Netherlands

inria

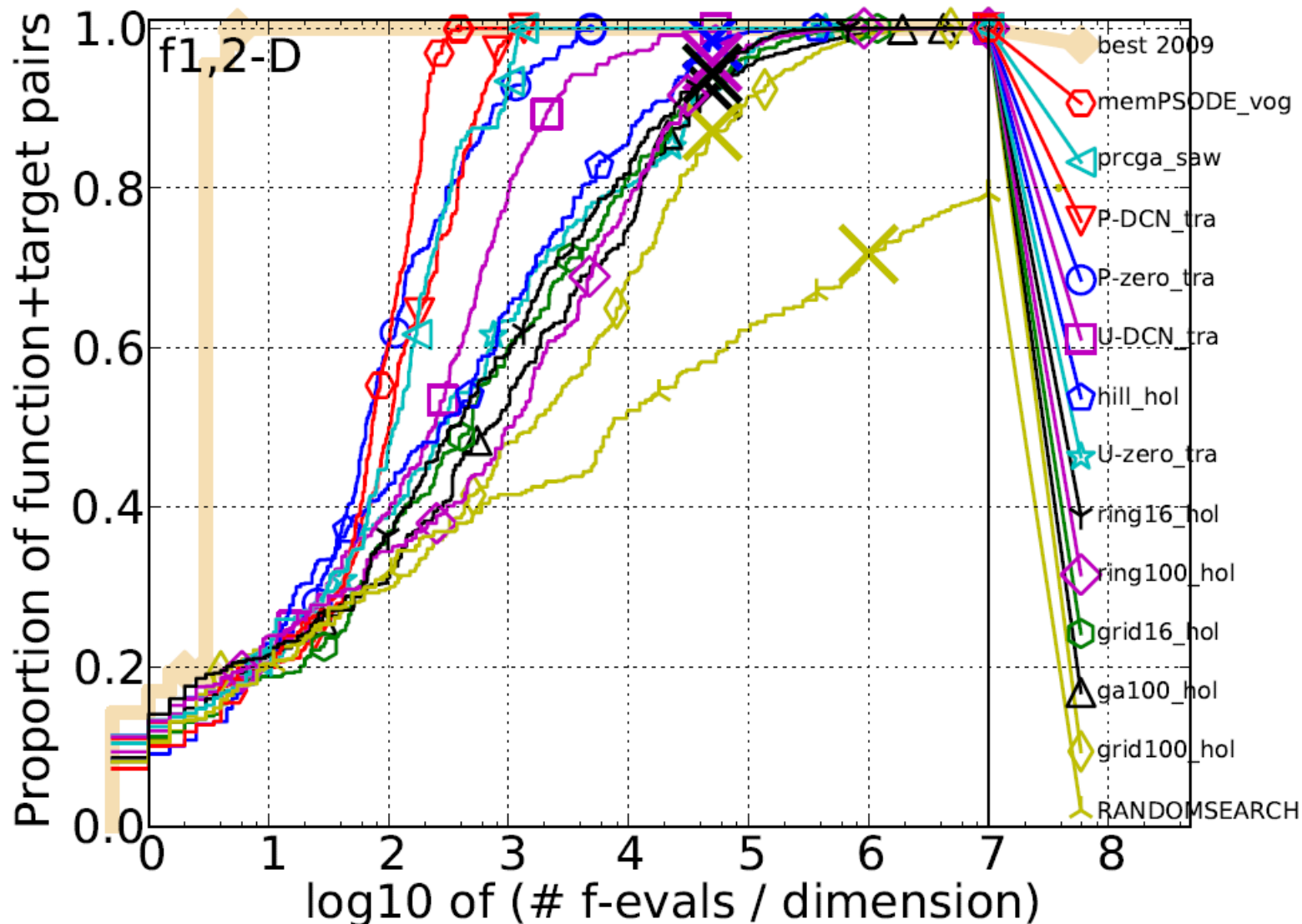
INVENTORS FOR THE DIGITAL WORLD

f1 – Sphere function, 2-D



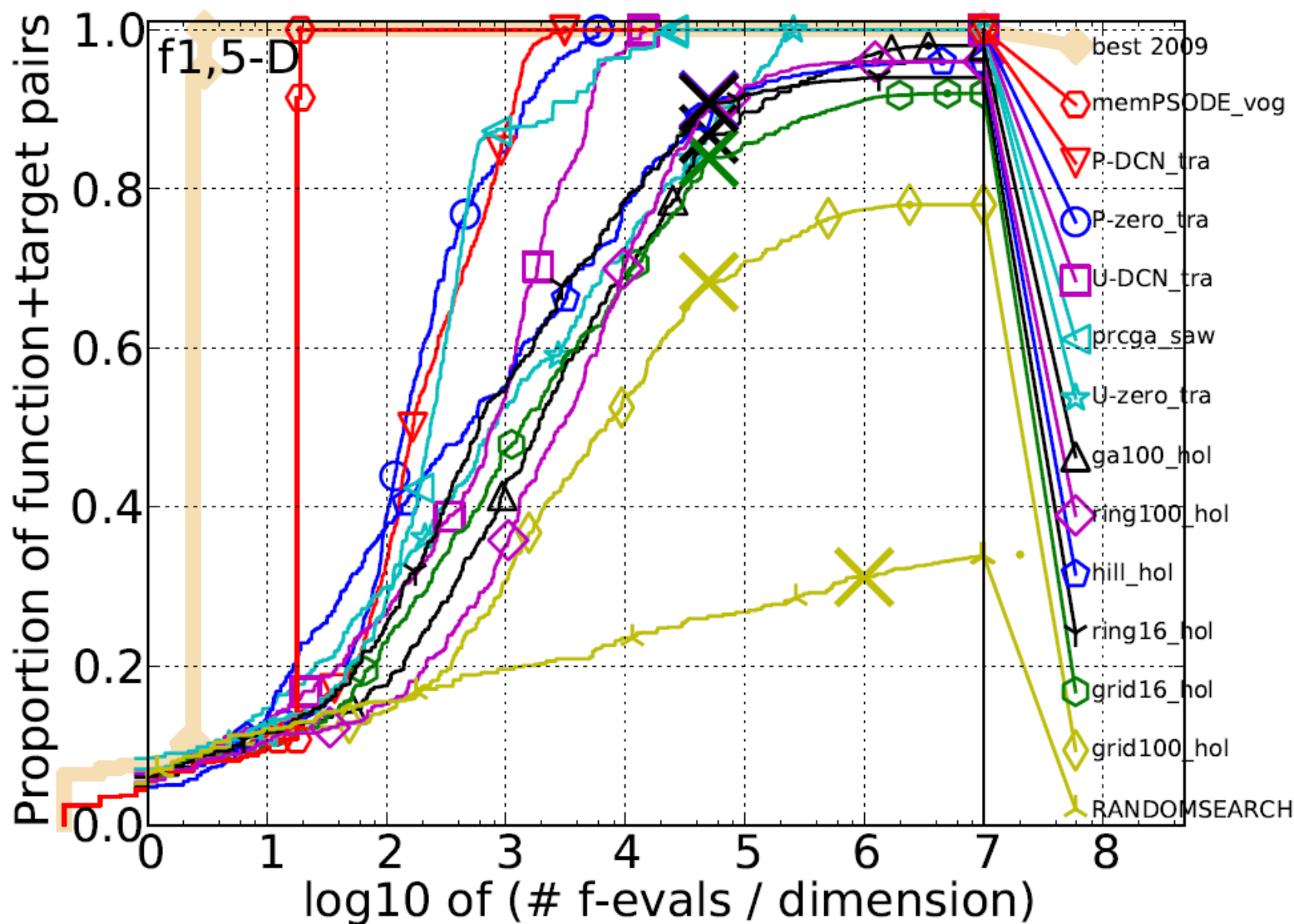
- minimal requirement test (= 'ONEMAX' in cont. domain)
- simple Monte Carlo sampling fails

f1 – Sphere function, 2-D

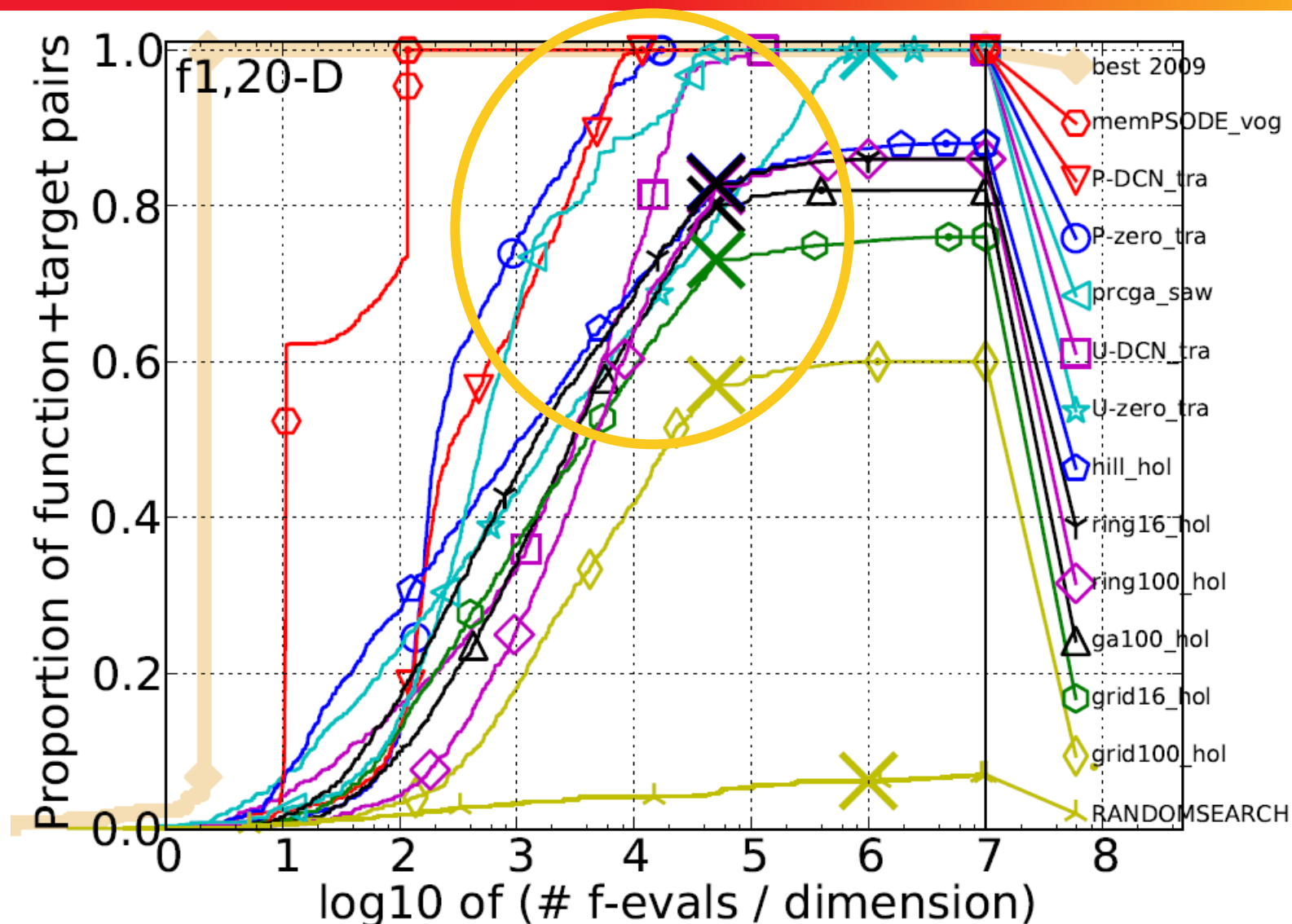


- minimal requirement test (= 'ONEMAX' in cont. domain)
- simple Monte Carlo sampling fails

f1 – Sphere function, 5-D

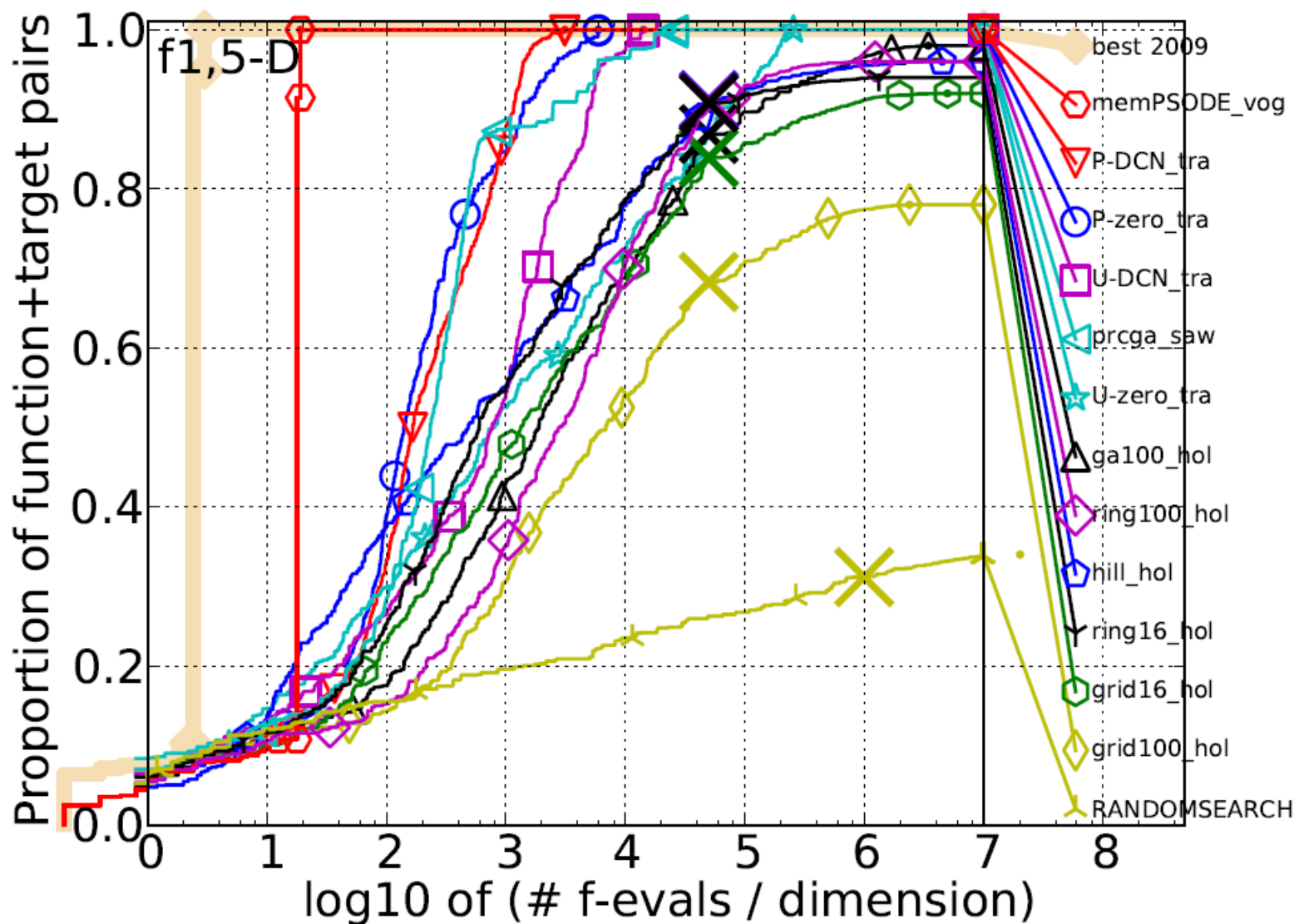


f1 – Sphere function, 20-D

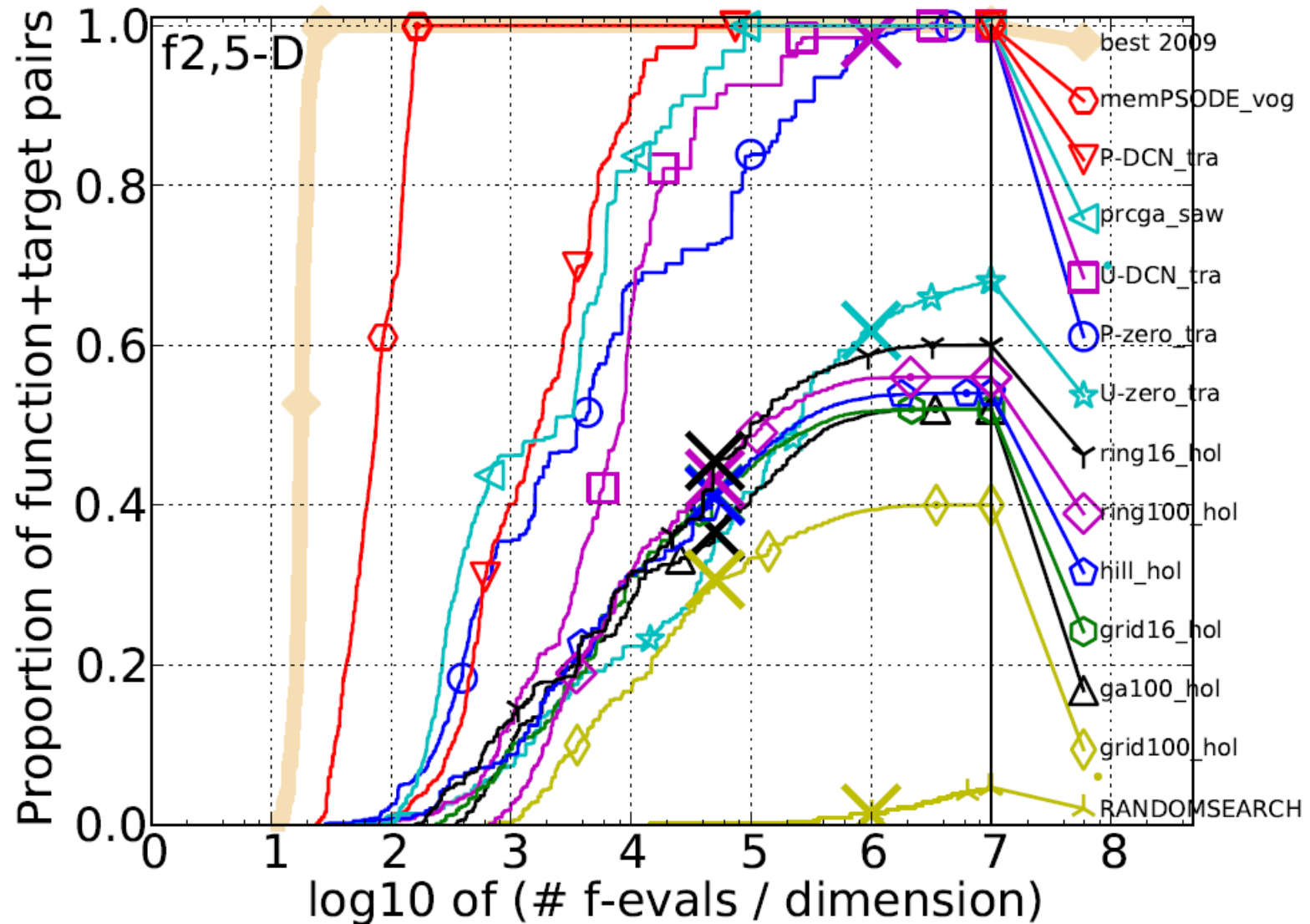


only memPSODE shows linear convergence

f1 – Sphere function, 5-D

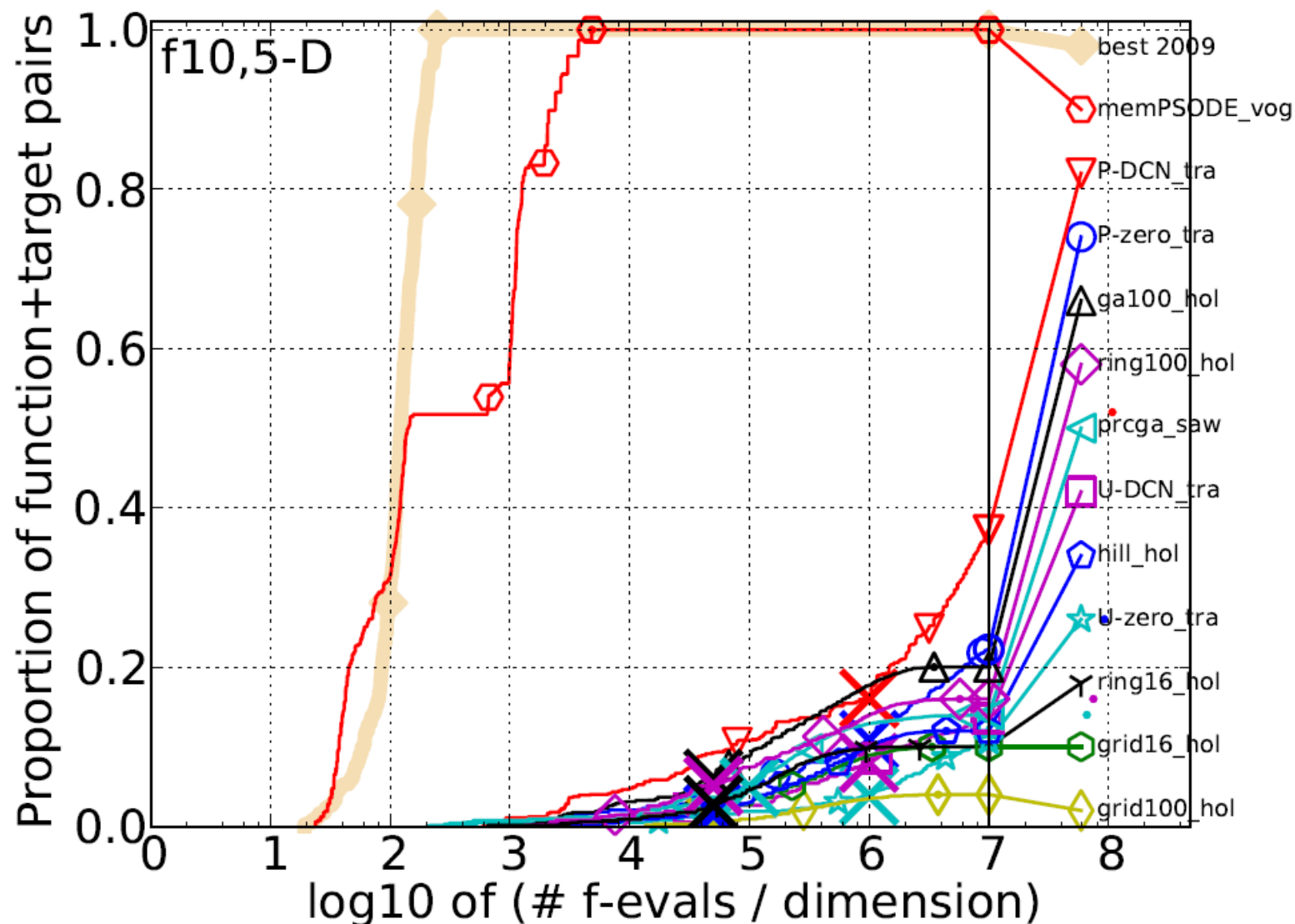


f2 – Ellipsoid, 5-D



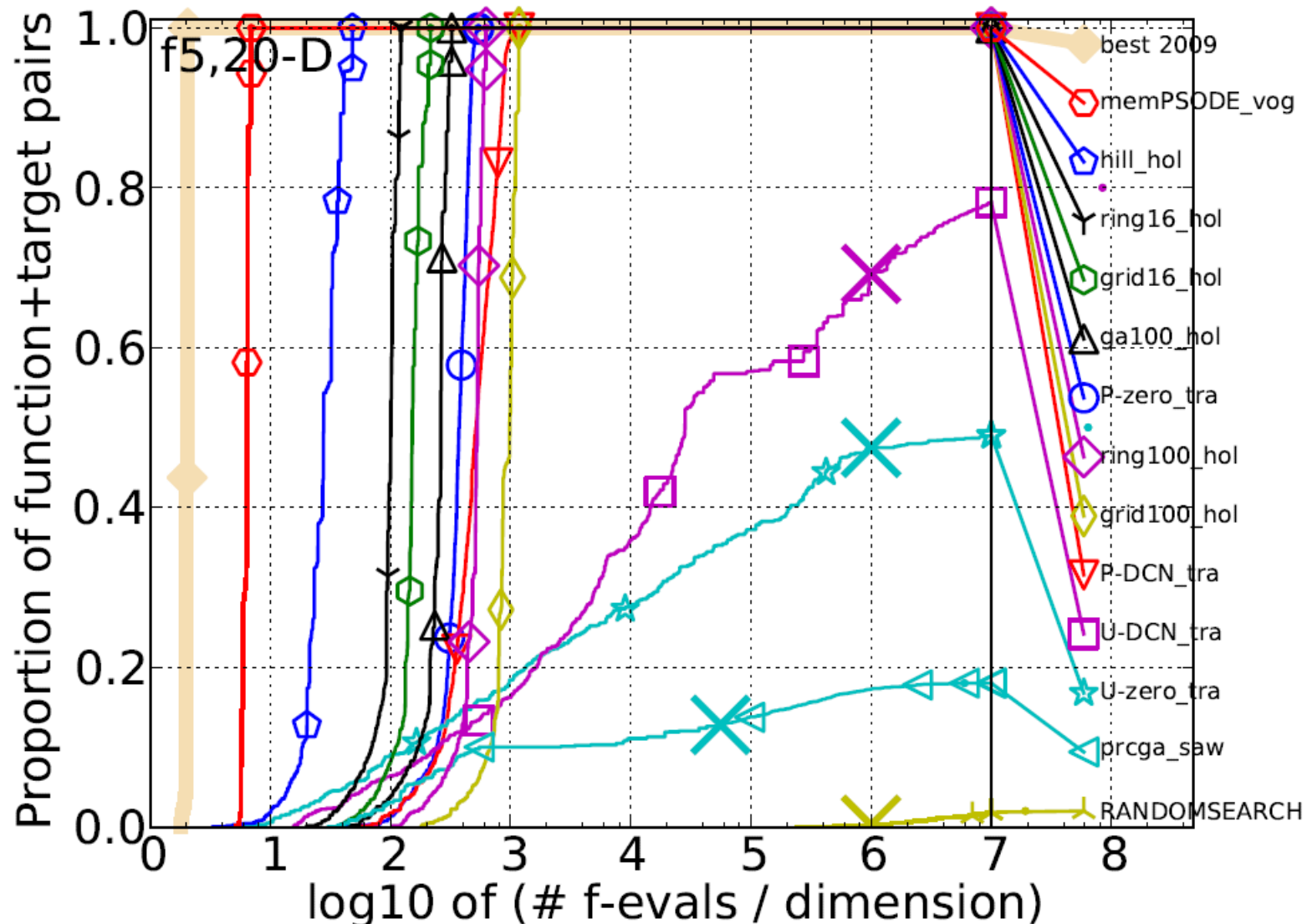
- unsymmetric version of f1 with high condition number
- for some algorithms, a high condition number seem problematic

f10 – Ellipsoid, 5-D



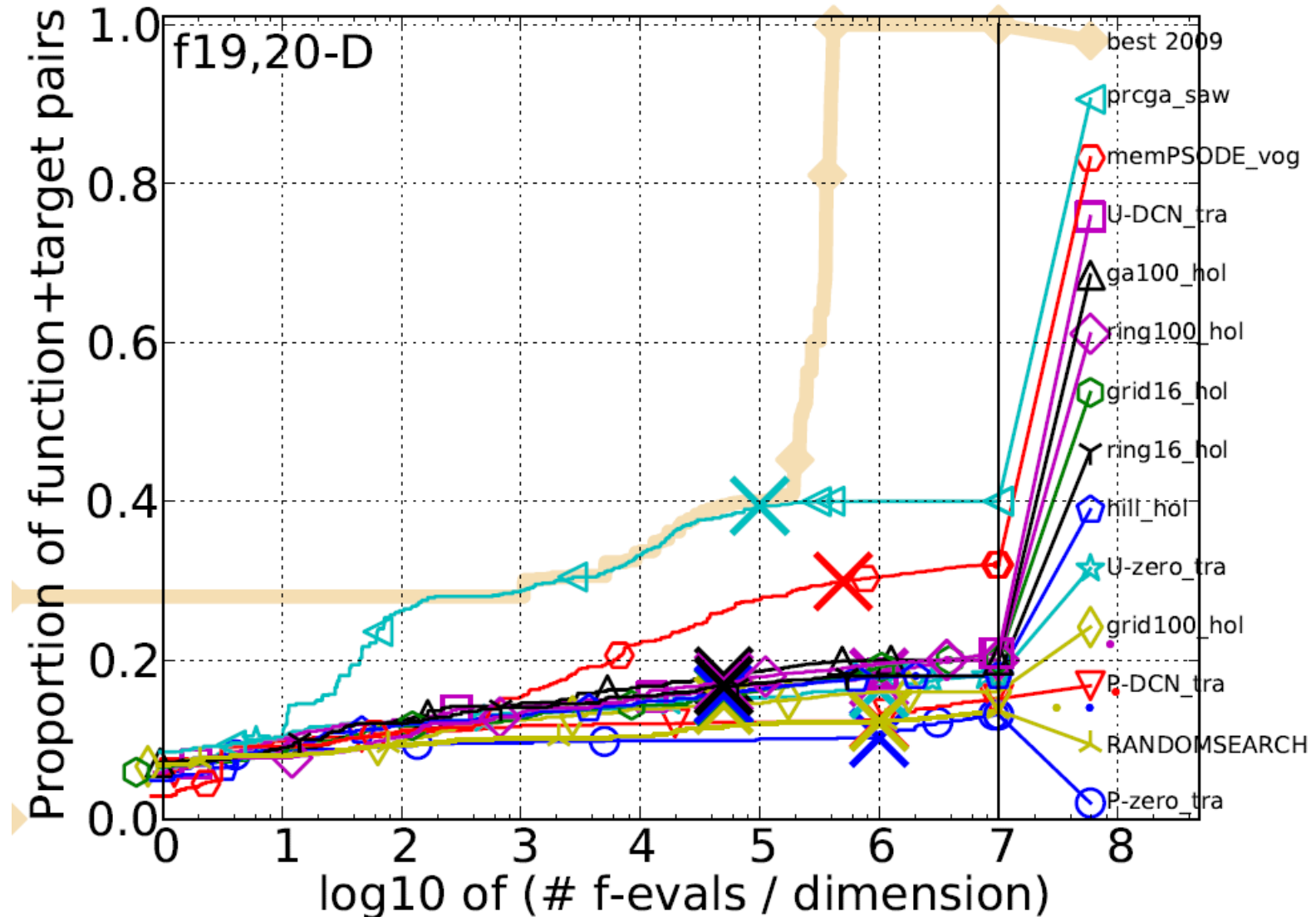
- rotated version of f2
- besides memPSODE, all algorithms (heavily) exploit separability

f5 – Linear, 20-D



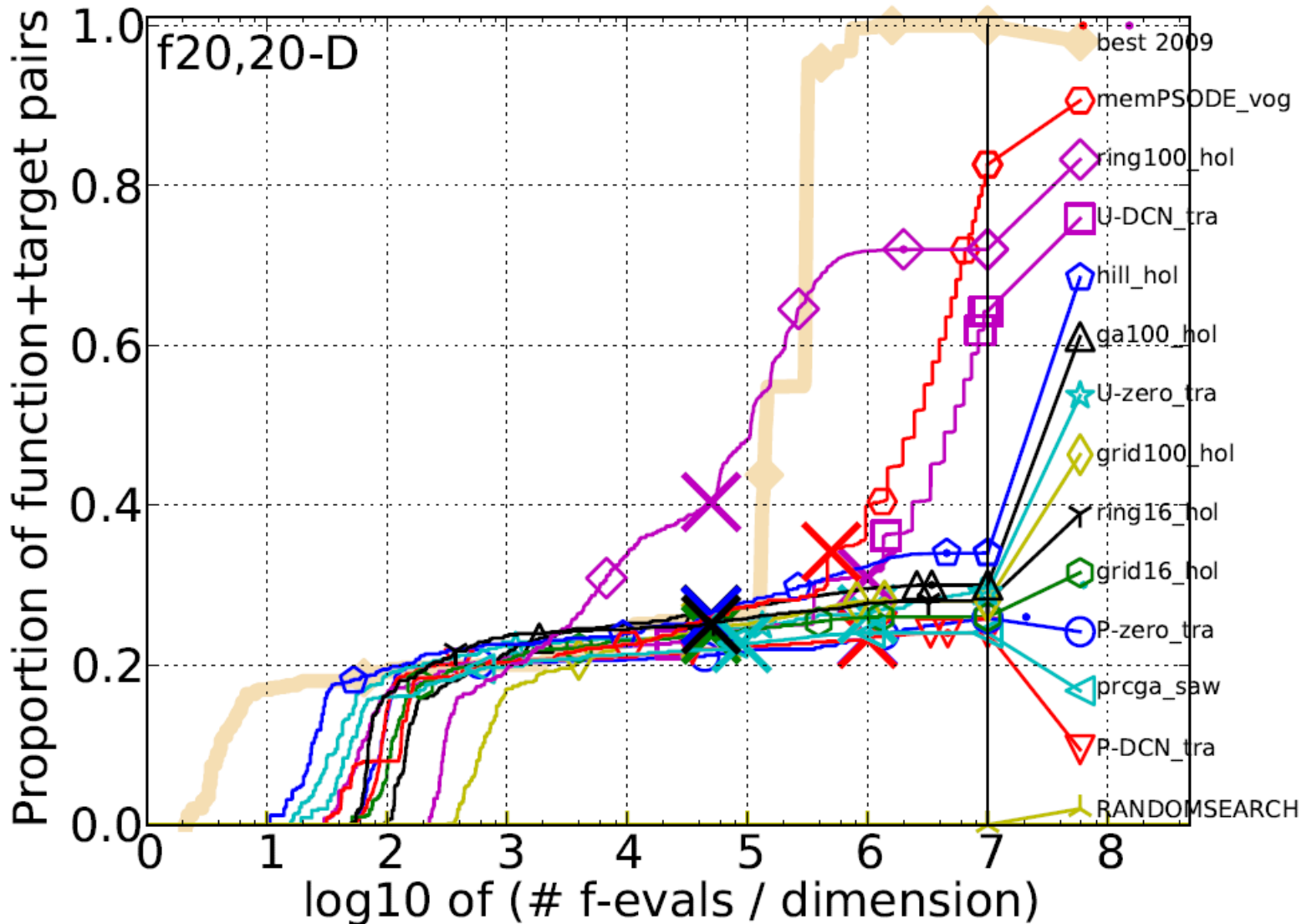
- can algorithms go outside the convex hull of initial solutions?
- yes for some but not for U-zero, U-DCN, and PRCGA

f19 – Compos. Griewank-Rosenbrock F8F2, 20-D



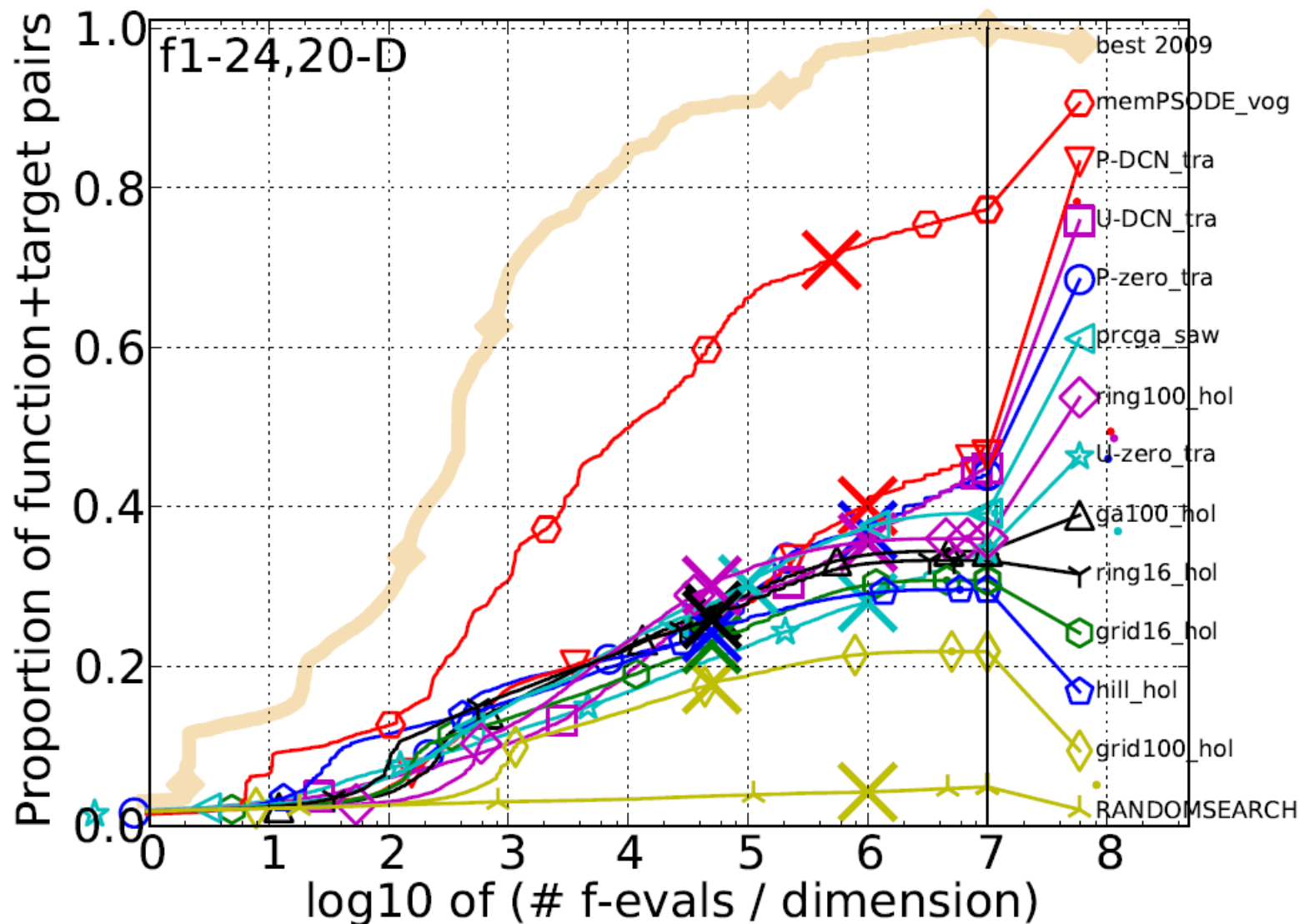
- PRCGA surprisingly good for this highly multimodal problem
- keeping in mind that the 'best 2009' is an artificial algorithm

f20 – Schwefel, 20-D



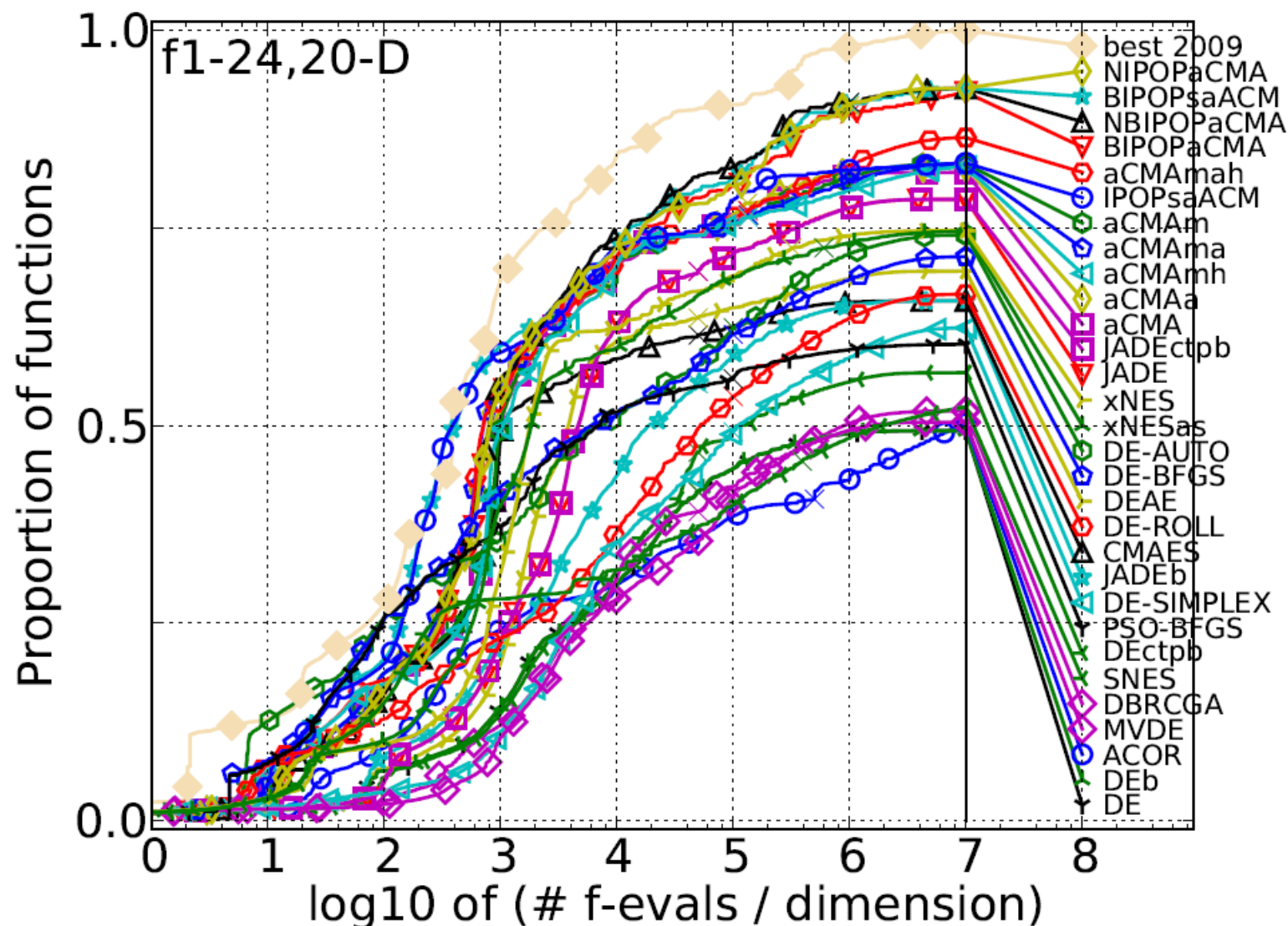
- Cellular GA 'ring100' exceptionally good (also for smaller dim.)

All Functions

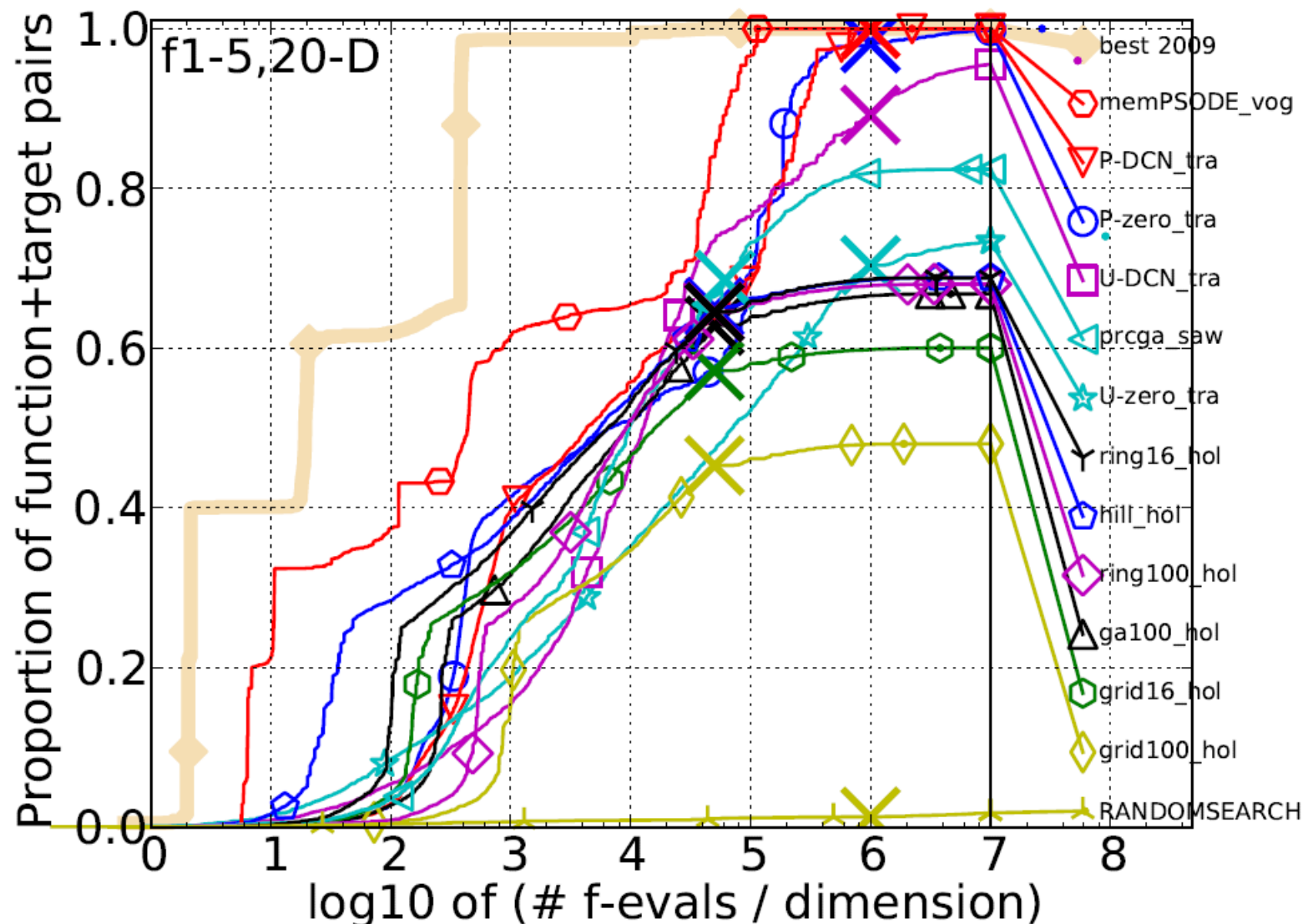


- except memPSODE, all algorithms rather weak

BBOB-2012 Submissions

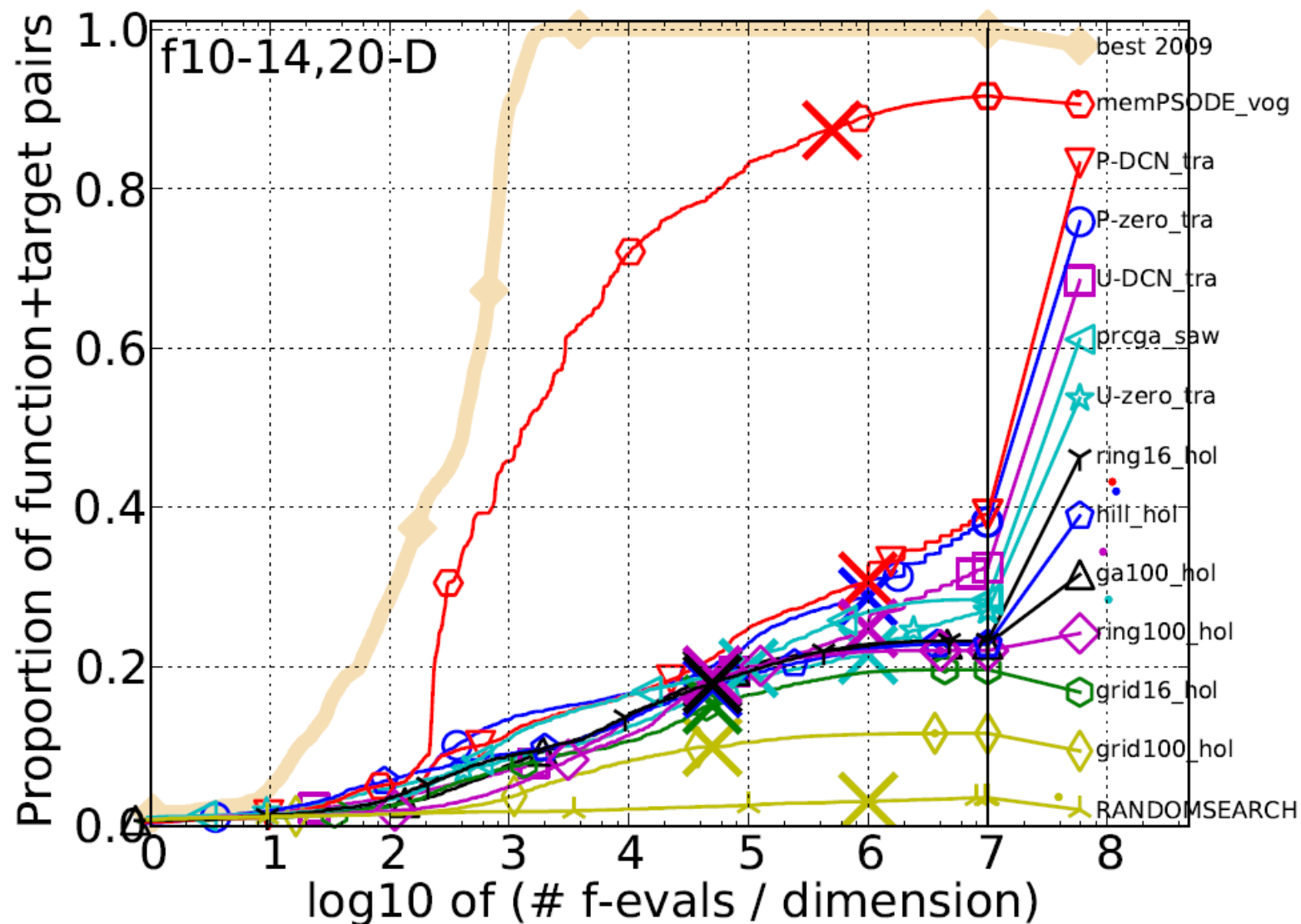


Separable Functions



- only function class with reasonable performances

Highly Conditioned Functions



Enjoy the lunch time!