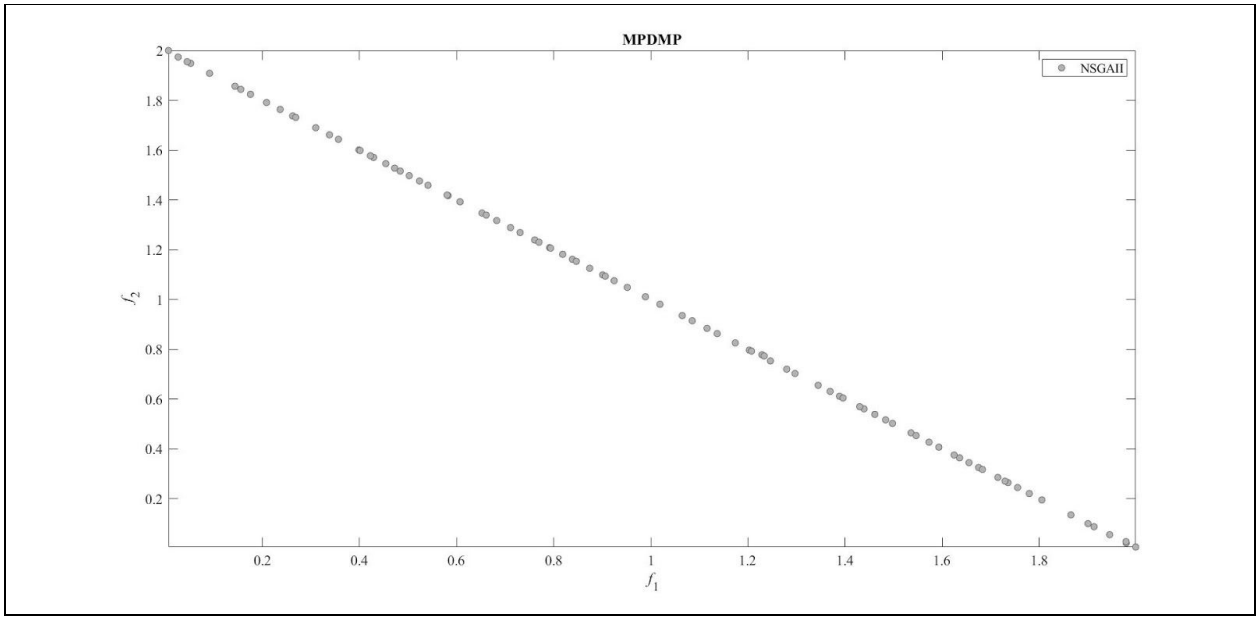
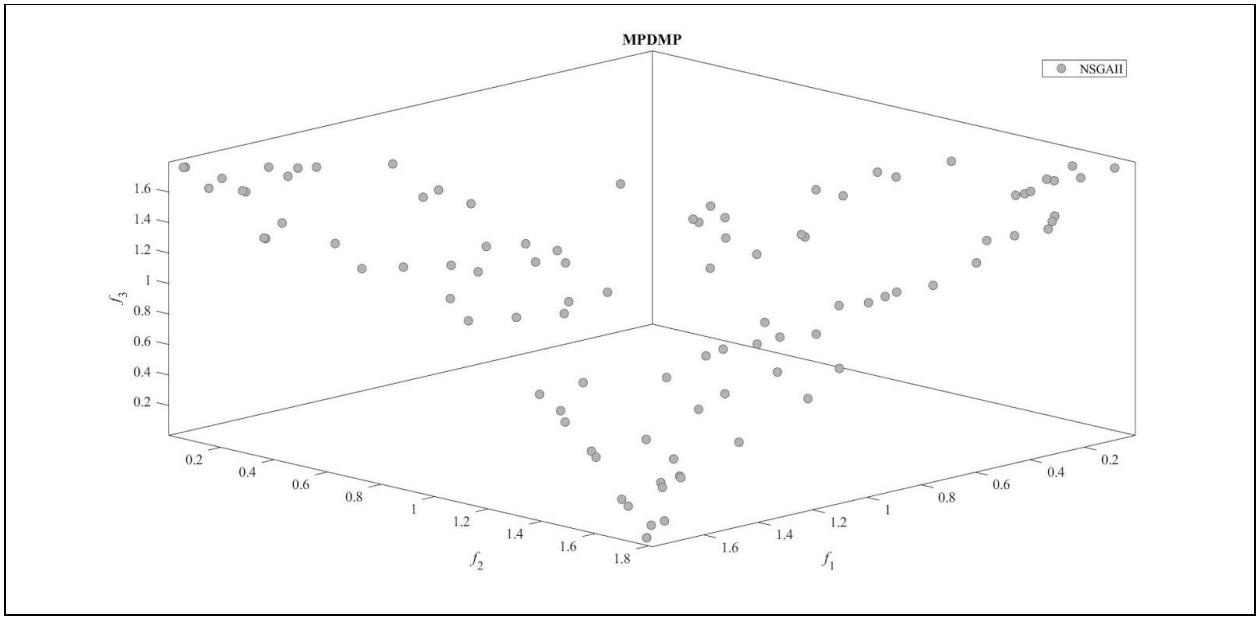
Submitted by: Ranji Raj

NSGA-2 (N = 100)



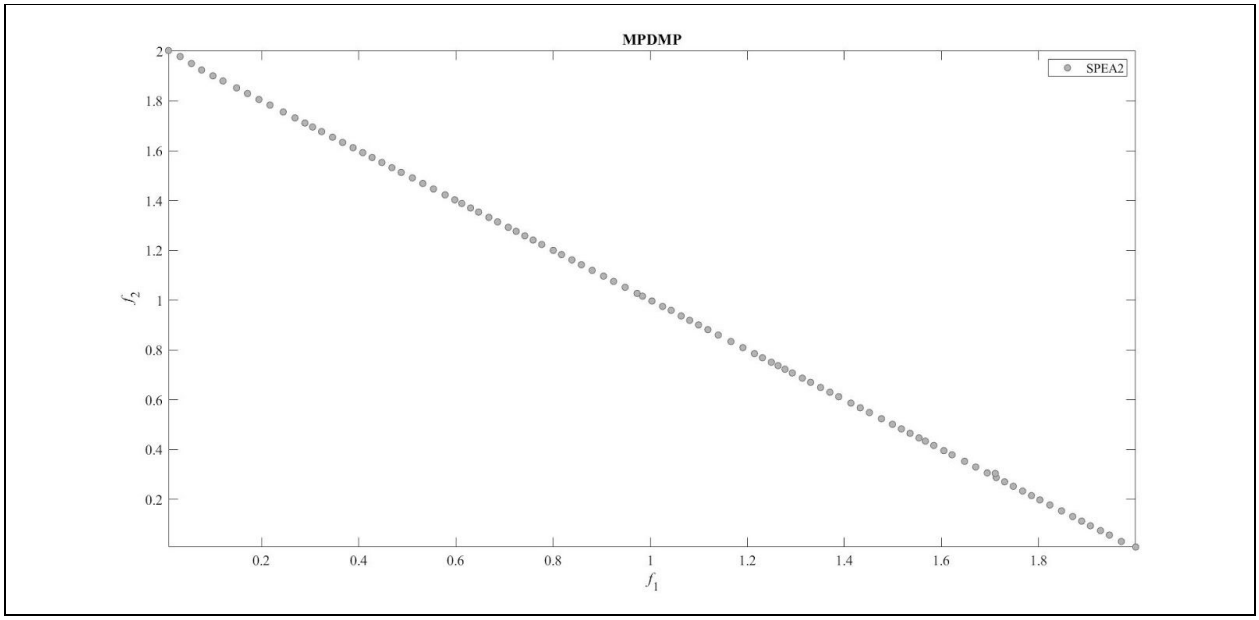


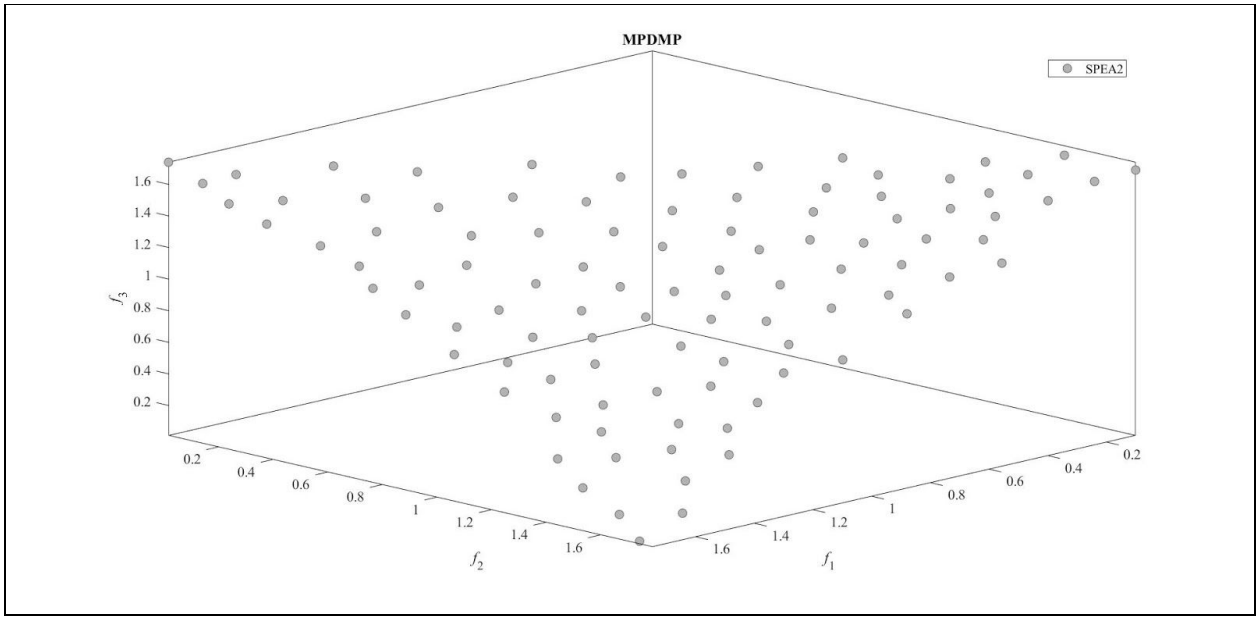
Observations: For bi-objective problem, the Pareto front is neither concave nor convex. Also, the points are crowded to some extent lesser diversity is observed.

For tri-objective problem, the distribution appears to be well separated. Diversity is attained to a certain level but at some portions, the points still appear to be crowded.

Submitted by: Ranji Raj

SPEA-2



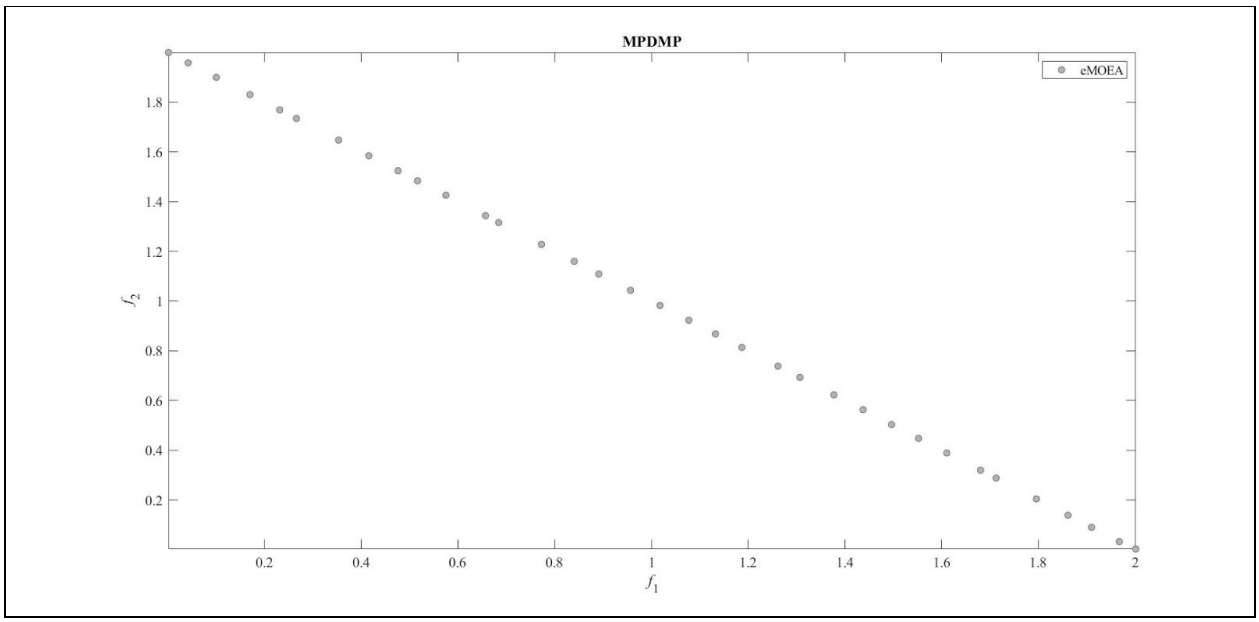


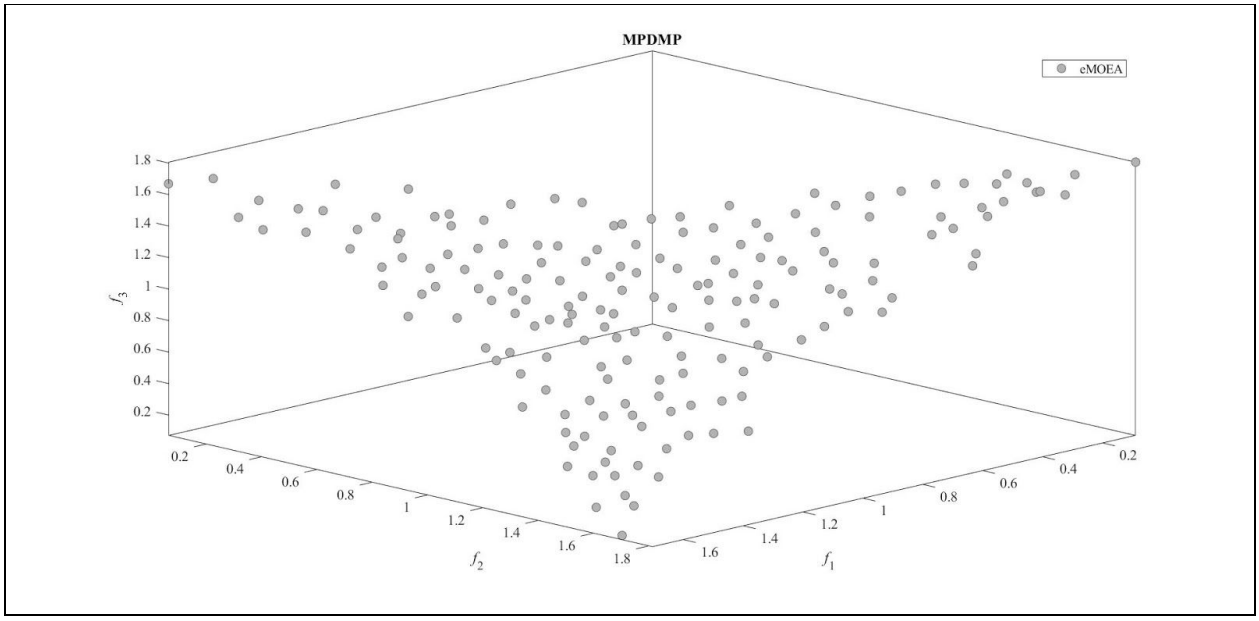
Observations: For bi-objective, the Pareto front still is neither concave nor convex. Poor diversity of points are observed on the front.

For tri-objective, less crowding of the points are seen and good diversity and distribution of points on the front.

Submitted by: Ranji Raj

∈-MOEA (∈ = 0.06)





Observations: For bi-objective, the front has a good diversity of points and a linear Pareto front. Eqi-spaced distance between the points.

For tri-objective, some points are overlapping and some portions are sparse on the front. Lesser diversity as compared to above.

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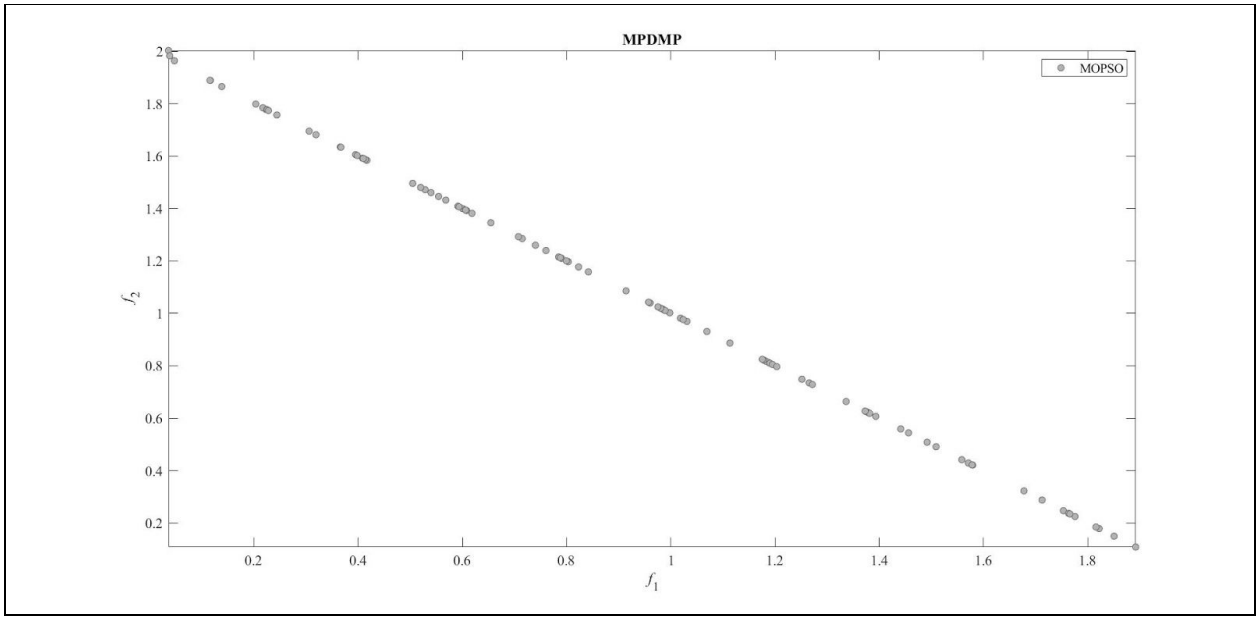
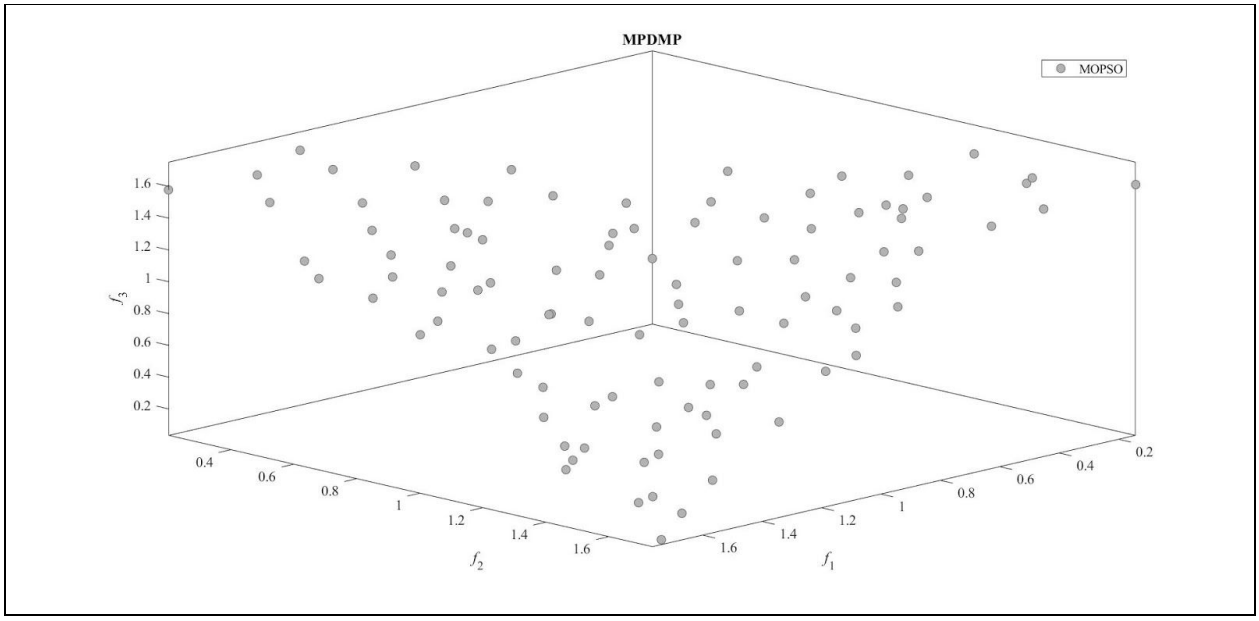
MOPSO



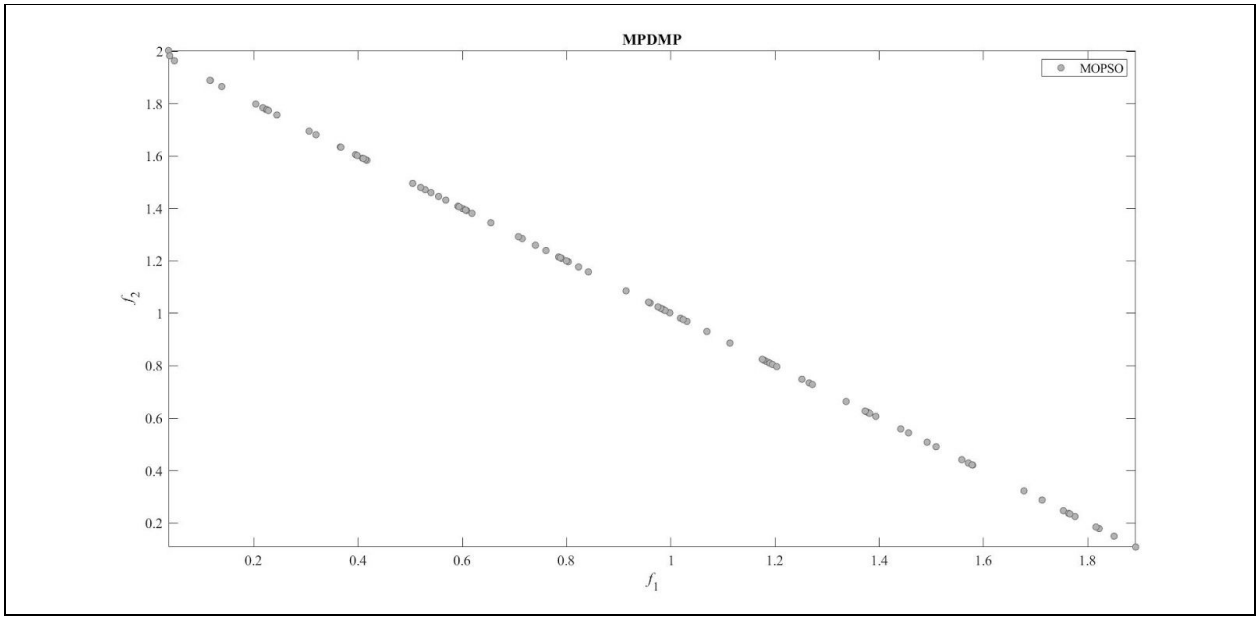


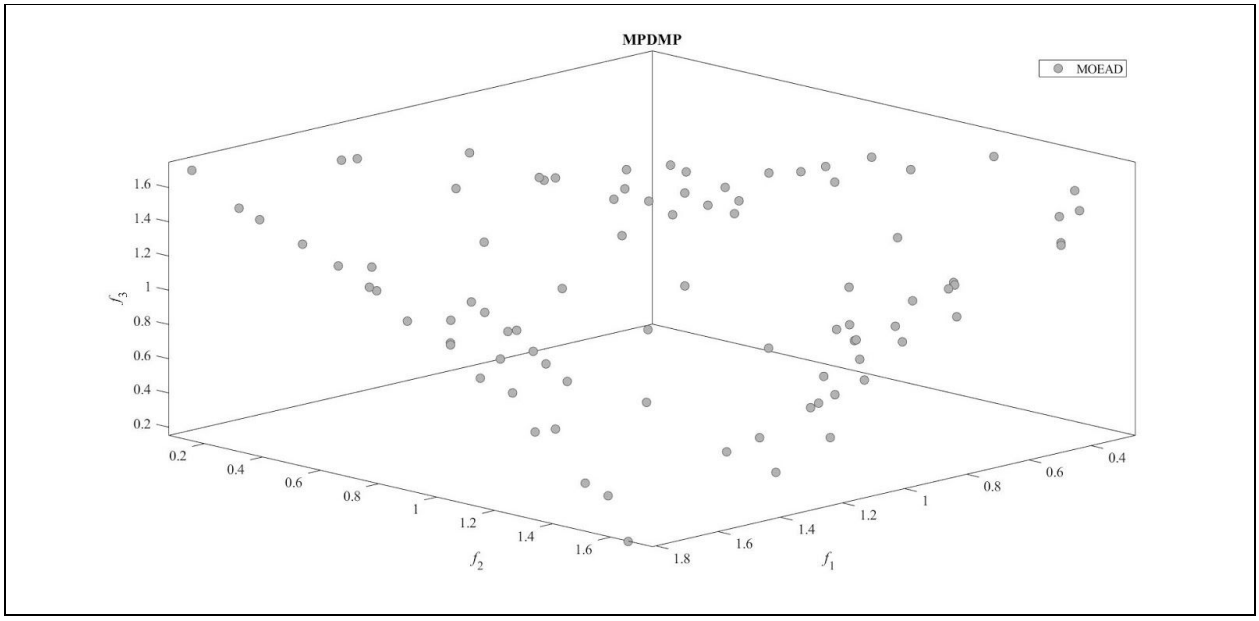
Observations: The Pareto front is linear. Some points appear to be overlapping and crowded. Very less diversity.

For tri-objective, some regions of the front have crowding of points. Diversity is better compared to the above.

Submitted by: Ranji Raj

MOEA/D





Observations: For bi-objective, Poor diversity of points along the front also some regions have crowding of points and overlapping points.

For tri-objective, the Pareto front has a non-uniform distribution, where towards the centre the points are sparse and along the edges, some overlapping is seen and poor diversity.

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Result comparison:

Algorithm	Pareto Front (Linearity)	Diversity	Overlap	Distribution
NSGA 2	+	+, -	+	-
SPEA 2	+	+	-	+
∈ - MOEA	+	+, -	+, -	+
MOPSO	+	-	-	+, -
MOEA/D	+	-	+, -	-