A brief Report on the article "An adaptive h_p–version of the multilevel particle–partition of unity method"

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Abstract: This paper is concerned with h_p–adaptive multilevel solution of second order elliptic partial equations using the meshfree particle–partition of unity method. The proposed refinement scheme automatically constructs new discretization points (or particles), the meshfree analogue of an adaptive h–refinement, and local approximation spaces with better local resolution, a p–refinement. The refinement process is steered with the help of an a–posteriori subdomain–type error indicator. The authors presented some numerical results in two and three dimensions to show the efficiency of the poposed scheme.

Key words: Meshfree methods; Partition of unity; h_p–Version **AMS Mathematical Subject**:

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