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HYPERSPHERE WITH SMALLEST RADIUS

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This paper answers a century old question "Find the least circle which shall contain a set of points in the plane" proposed by Sylvester in 1857. A systematic combinatorics approach is suggested to solve this problem. However, it is shown that a quadratic programming approach leads to an efficient algorithm which solves more general problem of finding the Least Hypersphere which contains a given set of points in n-dimensional space. Numerical example illustrates combinatorial algorithm and quadratic programming algorithm.

Note: Conference registration for Drs. Shyam Veena Chadha will be sent after hearing the acceptance of this abstract. University funding will be available after your acceptance is received asap. Shyam Veena Chadha

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