國立中山大學應用數學系
學術演講

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講　　題：Stabilized Lagrange-Galerkin schemes for the Oseen and Navier-Stokes equations

時　　間：2015/3/12（星期四）15：30～16：30

地　　點：理學院四樓理 SC 4011 室

茶　　會：15:00 於理 SC 4010 室（系辦公室）

摘要

　　In this talk stabilized Lagrange-Galerkin schemes are discussed for the Oseen and Navier-Stokes equations and error estimates with optimal convergence orders are proved. The schemes are combinations of Lagrange-Galerkin method and Brezzi-Pitkaranta's stabilization method.　They maintain the advantages of both methods;

　　(i) They are robust for convection-dominated problems and the resulting systems of linear equations are symmetric.

　　(ii) Since the P1 finite element is employed for both velocity and pressure, the number of degrees of freedom is much smaller than that of other typical elements for the equations, e.g., P2/P1 element.

　　The theoretical convergence orders are recognized numerically by two- and three-dimensional computations.

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