

國立高雄大學統計學研究所
97學年度書報討論題目暨摘要登記表

姓名：韓佩君

題目：Overview and Recent Advances in Partial Least Squares

作者：Roman Rosipal and Nicole Nicole Krämer

出處：Lecture Notes in Computer Science, 3940: 34-51, 2006

摘要：

Partial Least Squares (PLS) can guide the practitioner into more compact experimental settings with a significant cost reduction and without a high risk associated with the “blind” variables deletion.

Successful application of PLS on regression problems associated with many real world data has also attracted attention of statisticians to this method. Although PLS regression is still considered as a method or algorithm rather than a rigorous statistical model, recent advances in understanding of shrinkage properties of PLS regression helped to connect PLS regression with other, in statistical community better understood, shrinkage regression methods like Principal Component Regression (PCR) or Ridge Regression (RR). Moreover, these studies have shown very competitive behavior of PLS regression in comparison to the other shrinkage regression methods.

Connections between Principal Component Analysis (PCA), Canonical Correlation Analysis (CCA) and PLS have been highlighted. Understanding of these connections should help to design new algorithms by combining good properties of individual methods and thus resulting in more powerful machine learning tools.

指導教授簽名：