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Multivariate Calibration and Maintenance Using Principle Component Selection[1] TREVOR O'LOUGHLIN, Texas Tech University, JOHN KALIVAS, PARVIZ SHAHBAZIKAH, Idaho State University — Calibration maintenance confronts the problem of updating a model developed in primary condition to accurately predict the calibrated analyte in samples measured in new secondary conditions. Previously, the L_2 norm (TR2) variant of Tikhonov regularization (TR) have been used with spectroscopic data where a few samples measured in the secondary conditions are augmented to the primary calibration data to update the model. In this poster, the augmented data is solved by principle component regression (PCR) to determine whether selection of principle components may improve prediction errors. The measures are evaluated with a benchmark near infrared spectroscopic pharmaceutical tablet data set. It is found that principle component selection does not offer any improvements over TR.

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