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Mathematics Learning Objects in Undergraduate Math Education

Maplets are simple applications implemented with the Maple computer algebra system that have graphical user interfaces for ease of use. We present a few Maplets developed for teaching elementary linear algebra and multivariable calculus at the University of Ontario Institute of Technology (UOIT). Our primary goal is to provide a visualisation tool to assist students in internalising geometrical notions in three dimensions that are traditionally stumbling blocks in these courses. We present some preliminary results of our attempts to integrate these tools into our courses and discuss some of the pedagogical implications.

This is joint work with Pietro-Luciano Buono, Jannilyn Caoile, Greg Lewis, Bill Muirhead, and Jennifer Percival.