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Activities of Digital Processing Using Mathematica and MathCAD*. Preliminary report.

The area of digital image processing has great amount of resourceful opportunities in teaching mathematics because this modern field synthesizes a wide range of mathematical disciplines. We found that mathematics students engage into this topic quickly with curiosities. In this talk we introduce some examples of digital image and sound processing that were successfully used in linear algebra and undergraduate seminar style courses. Mathematica and MathCAD will be used to demonstrate how digital images and sounds are obtained, stored, processed, and also created through mathematical methods. If time is allowed, student feedbacks of these activities may be shared. (Received September 24, 2012)