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Pedagogy of autonomous differential equations and equilibria using a Matlab workbook.

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From the text: In this article a Matlab workbook is developed. Examples are shown and the workbook, which will be made available to interested readers, provides a simple means to explore the concept of equilibrium through a multitude of examples, thus enhancing the appreciation and understanding of the concepts of stability of engineering systems described using autonomous differential equations. Note that users must have the symbolic toolbox in Matlab to run the workbook since the analytical solutions and displays of equations require it.

Classification: I75 U75

Keywords: calculus; first order autonomous differential equations; teaching; mathematical software; computer as educational medium; mathematical applications; equilibrium; engineering; Matlab workbook; equilibrium points; stability; directional field; integral curves