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A comment on the calculation of periastron precession in general relativity JAMES CRAWFORD, Penn State University — Periastron precession is one of the three classical tests of General Relativity, and as such its calculation appears in virtually all text books on the subject. In almost all of these texts the calculation proceeds perturbatively from the Kepler solution to the Newtonian formulation. This calculation is rather cumbersome, typically taking a few pages of text to complete. In fact, the calculation can be completed in one line if the Kepler solution is not taken as the starting point. As far as I have been able to determine, this procedure has explicitly appeared in only one text, published in 2010. In this talk I review the perturbative procedure and compare it to the alternative. This material should be of interest to anyone who teaches a course in general relativity.

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