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Brian Harbourne* (bharbour@math.unl.edu), Mathematics Department, University of Nebraska, Lincoln, NE 68588-0130. *Splitting of the pullback of the cotangent bundle on rational curves.*

Given a morphism of the projective line into the projective plane that is birational to its image, a problem that has seen recent attention lately in geometric modeling is to determine the splitting of the pullback of the cotangent bundle. Results of M. G. Ascenzi (periodically rediscovered but rarely improved upon) determine the splitting when the image curve has a singularity of fairly large multiplicity. We study what happens when the splitting is not forced by Ascenzi's results, in the situation in which the singularities of the image curve are situated generically. For image curves with at most 9 singular points we pose a conjectural answer to the problem. This is joint work with A. Gimigliano and M. Ida. (Received February 13, 2012)