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Joan S Birman* (jb@math.columbia.edu), Barnard-Columbia Mathematics Department, 2990 Broadway, New York, NY 10027. *Efficient geodesics and distance in the complex of curves.*

Efficient geodesics are a concept that was introduced, in joint work by the speaker, Dan Margalit and William Menasco, to develop an algorithm that would be useful in computing examples of pairs of curves that fill a closed orientable surface and have low distance $d \geq 3$. In this talk I will discuss the underlying ideas that lead us to efficient geodesics, and show why there are at most finitely many efficient geodesics between any two vertices in the curve complex. The relationship between efficient geodesics and the tight geodesics of Masur and Minsky will be discussed. (Received January 27, 2015)