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Ilya Smirnov*, Department of Mathematics, 2074 East Hall, 530 Church Street, Ann Arbor, MI 48109. *F-signature and Cartier closure*. Preliminary report.

In their celebrated work, Hochster and Huneke showed how the Frobenius map yields the concepts of Hilbert-Kunz multiplicity, tight closure, and F-regularity and connections between them. More recently, a parallel theory emerged by considering Cartier maps, with F-signature and strong F-regularity as the corresponding notions.

I will fill a remaining gap by describing a version of tight closure that characterizes strongly F-regular rings and show how it connects with F-signature in a familiar way. (Received February 03, 2018)