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Ramesh Karki* (rkarki@iue.edu), 1110 Barrington Ridge, Richmond, IN 47374, and **Roza Aceska** and **Alessandro Arsie**. *Optimal reconstruction of initial data in some evolutionary PDEs via finite discrete samplings*. Preliminary report.

We study about how we can optimally reconstruct initial data for some evolutionary PDEs using only finite discrete measurements at later times. Mainly, we discuss our method in the case of a linear evolutionary PDE with constant coefficients and even order partial derivatives with respect to space variable. We also discuss this approach in the case of some PDEs with time dependent coefficients and its possibility to deal with some non-linear PDEs. (Received September 26, 2017)