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Zhu Cao* (zcaospsu.edu), 1100 S Marietta Pkwy, Department of Mathematics, Southern Polytechnic State University, Marietta, GA 30060. *Ramanujan's forty identities for the Rogers-Ramanujan functions and further identities of the same type*. Preliminary report.

Ramanujan's lost notebook contains a list of forty identities for the Rogers-Ramanujan functions. In this talk, we give natural explanations for some of the identities in the forty identities. Some known identities as well as new identities are established as applications. (Received September 25, 2012)