

1145-05-1888 **Zhu Cao*** (zcao@kennesaw.edu), Department Of Mathematics, Kennesaw State University,
Marietta, GA 30060. *An Unusual Identity from Ramanujan's Notebooks.*

In this talk, we discuss a unique identity, Entry 27 in Ramanujan's notebook IV. We give natural representations of both sides of the identity in terms of different binary quadratic forms. By finding a symmetric property between different quadratic forms, we derive a list of beautiful identities. As applications, we provide the proofs of two identities among Ramanujan's forty identities for the Rogers-Ramanujan functions in a similar way. At the end of the talk, We present some new identities for the Rogers-Ramanujan functions using quadratic forms. (Received September 24, 2018)