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Gary Greaves and **Graeme Taylor*** (magdt@bristol.ac.uk). *Lehmer's conjecture for Hermitian matrices over the Eisenstein and Gaussian integers*. Preliminary report.

We solve Lehmer's problem for a class of polynomials arising from Hermitian matrices over the Eisenstein and Gaussian integers: any such polynomial has Mahler measure at least $\lambda_0 = 1.17628\dots$. To do so, we classify (via graphs) all such matrices with Mahler measure at most 1.3. (Received July 16, 2011)