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David S Dummit, John Voight* (jvoight@gmail.com) and **Richard Foote**. *The 2-Selmer group of a number field and heuristics for narrow class groups and signature ranks of units.*

We investigate in detail a homomorphism which we call the 2-Selmer signature map from the 2-Selmer group of a number field K to a nondegenerate symmetric space, in particular proving the image is a maximal totally isotropic subspace. Applications include precise predictions on the density of fields K with given narrow class group 2-rank and with given unit group signature rank. In addition to theoretical evidence, extensive computations for totally real cubic and quintic fields are presented that match the predictions extremely well. (Received February 04, 2018)