1037-11-18   **Guillermo Mantilla*** (`mantilla@math.wisc.edu`), Madison, WI 53703. *Integral trace forms associated to cubic extensions.* Preliminary report.

Given a nonzero integer d we know, by Hermite's Theorem, that there exist only finitely many cubic number fields of discriminant d. A natural question is, how to refine the discriminant in such way that we can tell, when two of these fields are isomorphic. Here we consider the binary quadratic form $q_K : Tr_{K/\mathbb{Q}}(x^2)|_{O_K^0}$, and we show that if d is a positive fundamental discriminant, then the isomorphism class of q_K, as a quadratic form over $\mathbb{Z}^2$, gives such a refinement. (Received December 04, 2007)