

1079-57-407

Christopher William Davis* (cwd1@rice.edu), 1710 Wroxtton Ct., Apt 1, Houston, TX 77005.

Computing first order signatures and making a construction of Cochran-Harvey-Leidy explicit.

The solvable filtration of the knot concordance group has been studied closely since its definition by Cochran, Orr and Teichner in 2003. Recently Cochran, Harvey and Leidy have shown that the successive quotients in this filtration contain infinite rank free abelian groups and even exhibit a kind of primary decomposition. Unfortunately, their construction relies on an assumption of non-vanishing of certain ρ -invariants. By relating these ρ -invariants to the signature function of Cimasoni-Florens, we remove this ambiguity from the construction of Cochran-Harvey-Leidy. (Received January 18, 2012)