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Lassina Dembélé, Nuno Freitas and **John Voight*** (jvoight@gmail.com), 6188 Kemeny Hall, Hanover, NH 03755. *On computing Hilbert modular forms by type and generalized Fermat curves of degree 19*. Preliminary report.

We exhibit an algorithm to compute spaces of Hilbert modular forms by type. We apply this algorithm, using the method of Frey curves, to characterize integer solutions to the equation $x^{19} + y^{19} = Cz^p$ with p prime. (Received September 09, 2014)