1086-91-408   **Yang Jiao*** (`yangjiao@sas.upenn.edu`). *On the Sprague-Grundy Values of the $\mathcal{F}$-Wythoff Game.*

We examine the Sprague-Grundy values of $\mathcal{F}$-Wythoff, a restriction of Wythoff's game introduced by Ho, where the integer ratio of the pile sizes must be preserved if the same number of tokens is removed from both piles. We answer two conjectures raised by Ho. First, we show that each column of Sprague-Grundy values is ultimately additively periodic. Second, we prove that every diagonal of Sprague-Grundy values contains all the nonnegative integers. We also investigate the asymptotic behavior of the sequence of positions attaining a given Sprague-Grundy value. (Received August 29, 2012)