## Accurate Summation Of Floating Point Numbers And Applications

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Recently, with Prof. S. M. Rump and Dr. Ogita, we have proposed an algorithm of accurate summation of floating point numbers. The method gives always correct results until given accuracy. Its computational speed depends on a conditions number of a given problem. Thus, it is adaptive and fast. In this talk, we will overview this summation algorithm. Then, applications of our algorithm for solving ill-conditioned linear equations and for computational geometric algorithms will also be presented.