Chinese Remainder Theorem: Historical Account and Modern Significance

An early formulation of the Chinese Remainder Theorem (CRT) appeared in Sunzi Suanjing in the third century. It finds its culminating point in the work of Jiushan Qin (1247) where a neat technique of finding modulo inverse and a general form of a solution to the Chinese remainder representation were reported. The history of the CRT and its applications to modern Mathematics and Computing Science have been well studied. In this talk, we shall discuss some new findings and observations about the CRT. A faithful interpretation of Qin’s method for computing modulo inverse will be presented, some unique algorithmic properties and an interesting mathematical invariant of the method will be revealed. The other part of the talk will describe an approximation of the (continuous) Fourier transform from the perspective of the CRT, another derivation of the classical Poisson summation formula will be given.

Light refreshments will be served at 1:30pm in E424A.

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