1046-01-238 **Jiang-Ping Jeff Chen*** (jjchen@stcloudstate.edu), ECC 226, Dept. of Math, SCSU, 720 4th Ave. S., St. Cloud, MN 56301. *From Proofs to Suanli (Mathematical Principles) in Late Imperial China.*

Traditional Chinese mathematics treatises did not have proofs. Even after proof-writing was introduced to China in the translation of Euclid's Elements (Jihe yuanben) writing proofs and citing axioms never became a standard practice in mathematical treatises in 17th- and 18th-century China. Instead, the discussion or explanation of suanli (mathematical principles) replaced the proof under the heading, lun (discussion), where the proof should have been. Scholars sometimes evoked suanli to support the correctness of their claims. It seems that to understand mathematics reasoning in late imperial China, examining the concept of suanli might be more appropriate than trying to determine whether the discussions qualified as proofs. In the paper, I attempt to explore one aspect of suanli in early to mid-Qing through various scholars' explanations of Shijiao fa (the method of sagittae difference). Specifically I will examine the explanations of how two mathematicians employed this method. I will investigate one characteristic of suanli by showing that one scholar's revision of the other's explanation on this method amounts to systemizing various ad hoc procedures for problems of similar nature and elucidating them using one single principle. (Received August 21, 2008)