

Meeting: 1003, Atlanta, Georgia, SS 3A, AMS-MAA Special Session on History of Mathematics, I

1003-01-584 **J.-P. Jeff Chen*** (jjchen@stcloudstate.edu), ECC 226, Math Dept, SCSU, 740 4th Street S.,
St. Cloud, MN 56301. *Spherical Trigonometry in 17-18th Century China after Euclid's
Elements*. Preliminary report.

After the Jesuits brought Euclid's Elements to China in 1609, disputes between the Jesuit and Chinese methods dominated scholars' discussion in the academic circle. In this context, I will analyze a geometrical tool used to reduce problems in spherical trigonometry to those in the plane trigonometry. After such geometrical transformation, the problems of spherical trigonometry can be solved by the algorithms developed for plane trigonometry. I argue that, despite the ideological split between the Jesuit and Chinese approaches, most Chinese mathematicians adopted this geometrical tool. This invention of this tool was also attributed to the famous astronomer, Guo Shoujing (1231-1361) in Yuan Dynasty. (Received September 23, 2004)