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Understanding, disseminating, and interpreting Kepler: Riccioli and the three laws of planetary motion

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In his *Histoire de l'astronomie moderne* (II, 1785, p. 211), J. Bailly argued that Riccioli had not understood Kepler's laws. This has been questioned (J.L. Russell, 1964) and deserves consideration. Riccioli played an important role in the comprehension and dissemination of Kepler's works, at least in the Italian context. Riccioli seriously discussed Kepler's ideas in his *Almagestum Novum* and the *Astronomia Reformata*, and he gives Kepler more importance than Copernicus or Galileo.

In this talk, we will see how Riccioli understood Kepler's three laws of planetary motions. We will show the difference between the technical solutions of the two astronomers and evaluate these differences with reference to the position of the sun, the different ways of using the eccentricity of the orbits, the ellipticity of the trajectories and the calculation of the periods. We will explain why Riccioli did not accept the physical interpretation of Kepler astronomy.

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