Lorentzian Bobillier Formula

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Abstract

In this paper, Lorentzian Euler Savary formula (giving the relation between the curvatures of the trajectory curves drawn by the points of the moving plane in the fixed plane) during one parameter Lorentzian planar motion is taken into consideration. By using an original geometrical interpretation of Lorentzian Euler Savary formula, Lorentzian Bobillier formula is established.

However, another presentation is made in this paper without using the Euler Savary formula. Then the Lorentzian Euler Savary formula will appear as a particular case of Bobillier formula and as a result of the direct way chosen, this new Lorentzian formula (Bobillier) could be considered as a fundamental law in a planar Lorentzian motion in place of Euler Savary's.

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