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**Geometric properties of Lorentzian hypersurfaces in open nullcone.** (Chinese. English summary) [Zbl 07404420]  

Summary: The difficulty in the study of Lorentzian hypersurface in open nullcone is that it is impossible to obtain the normal vector of the hypersurface from the tangent space by using pseudo wedge operation. In order to solve this problem, we need the help of the theory of Legendrian duality. In this paper, we prove the existence of the nullcone Gaussian image, the Anti de Sitter Gaussian image and the pseudosphere Gaussian image of Lorentzian hypersurface in open nullcone by Legendrian dual theorem, and we preliminarily establish the slant geometry of Lorentzian hypersurfaces in open nullcone.

**MSC:**
- 14J70 Hypersurfaces and algebraic geometry
- 53A07 Higher-dimensional and -codimensional surfaces in Euclidean and related $n$-spaces

**Keywords:**
- Legendrian duality; Lorentzian hypersurface; open nullcone; slant geometry