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Ruled Weigarten surfaces in Minkowski space

A surface in Euclidean 3-space is called Weingarten if there exists a non trivial relation between the Gauss and mean curvature of the surface. A classical result of Beltrami and Dini states that any non developable ruled Weingarten surface is the orbit of a line under a screw motion. Here we study ruled Weingarten surfaces in 3-dimensional Minkowski space. There are some essential differences with the Euclidean case. First there are several types of Lorentzian screw motions. But most importantly, there are ruled Weingarten surfaces which are not the orbit of any 1-parameter group of Lorentzian motions. We obtain a complete classification of all ruled Weingarten surfaces.