

Research Programme

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My main research plans are as follows.

Regularity of ends of zero mean curvature surfaces

We analyze ends of zero mean curvature surfaces of mixed (or non-mixed) type in the Lorentzian 3-space $\mathbb{R}^{2,1}$. Among these, we show that spacelike or timelike planar ends are C^∞ in the compactification of $\mathbb{R}^{2,1}$. On the other hand, lightlike planar ends are not C^∞ . We would like to consider our bicomplexification of this cases.

Totally complex submanifolds and R spaces

totally complex submanifolds in quaternionic projective spaces with parallel second fundamental form were classified by K. Tsukada in 1985. More recently we have also obtained a similar result for such submanifolds. It will be described in detail in the forthcoming joint paper with Yoshihiro Ohnita and Jong Taek Cho (Chonnam National University)