

## **A New Realization of Multidimensional System for Grid Sensor Network**

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**Abstract :** In this paper, for the basic problem of wireless sensor network topology control and deployment, the Roesser model in rectangular grid sensor networks is presented. In addition, a general constructive realization procedure will be proposed. The procedure enables a distributed implementation of linear systems on a sensor network. A non-trivial example is illustrated.

**Keywords :** grid sensor networks, Roesser model, state-space realization, multidimensional systems

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