

## **Infinite family of optimal line systems.**

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A line system is said to be optimal if the minimal angular distance between different lines is maximized. Optimal line systems are often few-angular. I present an infinite family of optimal line systems in spaces  $\mathbb{R}^{q-1}$  where  $q = 2^{2k+1}$ . All members of this infinite family are biangular having angle sets of the form  $\{0, \sqrt{2/q}\}$ . These line systems are generated by certain representations of the finite groups  $\text{SL}(2, 2^{2k+1})$ .

Keywords: optimal line systems, biangular line systems.