

Zeros of some special entire functions

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The distribution of real and complex zeros of some special entire functions such as Wright, hyper-Bessel, and a special case of generalized hypergeometric functions is studied by using some classical results of Laguerre, Pólya, Obreschkoff and Runckel. The obtained results extend the known result of Hurwitz (proved also by Hilb, Hille and Szegő, Pólya, Obreschkoff, Runckel, Peyerimhoff, Ki and Kim) on complex zeros of Bessel functions of the first kind. Moreover, results on zeros of Bessel function derivatives and cross-product of Bessel functions are also presented, which are related to some recent open problems. The talk is based on the preprint papers arXiv:1602.04295 and arXiv:1702.00626.