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On the normal meromorphic functions. (English) Zbl 1132.30339
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Summary: Let \mathcal{F} be a family of functions meromorphic in D such that all the zeros of $f \in \mathcal{F}$ are of multiplicity at least k (a positive integer), and let E be a set containing $k + 4$ points of the extended complex plane. If, for each function $f \in \mathcal{F}$, there exists a constant M and such that $(1 - |z|^2)^k |f^{(k)}(z)| / (1 + |f(z)|^{k+1}) \leq M$ whenever $z \in \{f(z) \in E, z \in D\}$, then \mathcal{F} is a uniformly normal family in D , that is, $\sup\{(1 - |z|^2)f^\#(z) : z \in D, f \in \mathcal{F}\} < \infty$.

MSC:

30D45 Normal functions of one complex variable, normal families

30D35 Value distribution of meromorphic functions of one complex variable, Nevanlinna theory

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