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The MacLane Class and Complex Differential Equations in the Unit Disk. Preliminary report.

The MacLane class consists of nonconstant analytic functions f with asymptotic values at each point of a set of points $A \subset C = \{z : |z| = 1\}$ with A dense on C . Research concerning the connection between the growth of coefficients and that of solutions for complex linear differential equations in the unit disk has been a topic for many studies recently. The authors investigate the interaction between the coefficients and solutions for linear differential equations and for Riccati differential equations in terms of their asymptotic values as described by the MacLane class. (Received September 12, 2008)