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Titolo	Painlevé III : a case study in the geometry of Meromorphic connections [e-book] / Martin A. Guest, Claus Hertling
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Nota di contenuto	1. Introduction -- 2.- The Riemann-Hilbert correspondence for P3D6 bundles -- 3. (Ir)Reducibility -- 4. Isomonodromic families -- 5. Useful formulae: three 2 × 2 matrices -- 6. P3D6-TEP bundles -- 7. P3D6-TEJPA bundles and moduli spaces of their monodromy tuples -- 8. Normal forms of P3D6-TEJPA bundles and their moduli spaces -- 9. Generalities on the Painleve equations -- 10. Solutions of the Painleve equation PIII (0, 0, 4, 4) -- 13. Comparison with the setting of Its, Novokshenov, and Niles -- 12. Asymptotics of all solutions near 0 -- ...Bibliography. Index
Sommario/riassunto	The purpose of this monograph is two-fold: it introduces a conceptual language for the geometrical objects underlying Painlevé equations, and it offers new results on a particular Painlevé III equation of type PIII (D6), called PIII (0, 0, 4, 4), describing its relation to isomonodromic families of vector bundles on P1 with meromorphic connections. This equation is equivalent to the radial sine (or sinh) Gordon equation and, as such, it appears widely in geometry and physics. It is used here as a very concrete and classical illustration of the modern theory of vector bundles with meromorphic connections. Complex multi-valued solutions on C* are the natural context for most of the monograph, but in the last four chapters real solutions on R>0

(with or without singularities) are addressed. These provide examples of variations of TERP structures, which are related to tt geometry and harmonic bundles. As an application, a new global picture of 0 is given