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Schramm-Loewner-evolution-type growth processes corresponding to Wess-Zumino-Witten theories. (English) [Zbl 1469.60258]
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Summary: A group theoretical formulation of Schramm-Loewner-evolution-type growth processes corresponding to Wess-Zumino-Witten theories is developed that makes it possible to construct stochastic differential equations associated with more general null vectors than the ones considered in the most fundamental example in [A. Alekseev et al., Lett. Math. Phys. 97, No. 3, 243–261 (2011; Zbl 1238.60088)]. Also given are examples of Schramm-Loewner-evolution-type growth processes associated with null vectors of conformal weight 4 in the basic representations of $\hat{sl}_2$ and $\hat{sl}_3$.

MSC:
60J67 Stochastic (Schramm-)Loewner evolution (SLE)
81T40 Two-dimensional field theories, conformal field theories, etc. in quantum mechanics
17B68 Virasoro and related algebras

Keywords:
Schramm-Loewner evolution; Wess-Zumino-Witten theory; conformal field theory

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