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Ahmed Ghatasheh* (med.ghatasheh@gmail.com). *Sign-changing points of solutions of Sturm-Liouville equations with measure-valued coefficients.*

In this talk we investigate sign-changing points of nontrivial real-valued solutions of homogeneous Sturm-Liouville differential equations of the form $-d(du/d\alpha) + ud\beta = 0$, where $d\alpha$ is a positive Borel measure supported everywhere on (a, b) and $d\beta$ is a locally finite real Borel measure on (a, b) . Since solutions for such equations are functions of locally bounded variation, sign-changing points are the natural generalization of zeros. We prove that sign-changing points for each nontrivial real-valued solution are isolated in (a, b) . We also prove a Sturm-type separation theorem for two nontrivial linearly independent solutions, and conclude the paper by proving a Sturm-type comparison theorem for two differential equations with distinct potentials.

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