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A Different Approach to the Perturbation of Astrophysical Fluids

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Abstract content
 (Max 300 words)
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We show that Eulerian and Lagrangian perturbations can be interpreted as finite differences that arise from suitably defined differential operators. These operators lead to exact rather than to approximate perturbation relations and equations. The equations obtained are more general than those usually encountered, and are de facto linear. No approximation is thus needed to linearise them. We also explore the possibility of extending this formalism to the description of stellar pulsations of arbitrary amplitude without using power series expansions.

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