

## Jensen bound for the entropy production rate in stochastic thermodynamics

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*Introduction.*





$$\zeta^- = \mu = D/k T \rho,$$

$$\Sigma = S - Q/k T \rho,$$

(a) Defining the heat flow.  $S = Q$

Musical score for page 109. The page features a vocal line at the top and piano accompaniment below. The vocal line consists of a single staff with a treble clef and a key signature of one flat. The piano accompaniment is written for the right hand on a grand staff (treble and bass clefs) and the left hand on a single bass clef staff. The score includes various musical notations such as notes, rests, and dynamic markings. A section of the piano accompaniment is marked with a blue 'N'.



*Convex Optimization*

24

52

125