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Title:	Informative priors and the analogy between quantum and classical heat engines
Authors:	Thomas, George (/jspui/browse?type=author&value=Thomas%2C+George) Aneja, Preety (/jspui/browse?type=author&value=Aneja%2C+Preety) Johal, R.S. (/jspui/browse?type=author&value=Johal%2C+R.S.)
Keywords:	Carnot efficiency Classical model Control parameters
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Publisher:	The Royal Swedish Academy of Sciences.
Citation:	Physica Scripta, (T151), art. no. 014031
Abstract:	When incomplete information about the control parameters is quantified as a prior distribution, a subtle connection emerges between quantum heat engines and their classical analogues. We study the quantum model where the uncertain parameters are the intrinsic energy scales and compare it with the classical models where the intermediate temperature is the uncertain parameter. The prior distribution quantifying the incomplete information has the form $\pi(x) \propto 1/x$ in both the quantum and the classical models. The expected efficiency calculated in the near-equilibrium limit approaches the value of one third of Carnot efficiency.
URI:	http://arxiv.org/abs/1205.0667 (http://arxiv.org/abs/1205.0667) http://iopscience.iop.org/1402-4896/2012/T151/014031 (http://iopscience.iop.org/1402-4896/2012/T151/014031)
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