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[522] Experimental demonstration of a quantum model learning agent on the NV-centre platform

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Developing novel quantum technology exhibits the challenge of their efficient characterisation. We introduce and experimentally demonstrate a methodology to automatically formulate and select Hamiltonian models, learning the most appropriate in reproducing the observed system's dynamics. Here, we propose and experimentally demonstrate the quantum model learning agent (QMLA), a Bayesian approach based upon the generation and exploration of alternative, parametrised models; and additionally a frequentist approach. To test our methodology, we use the Hamiltonian describing a nitrogen-vacancy-centre electron spin interacting with a spin bath.

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