

LEONARDO ANDRETA DE CASTRO

Physicist and software developer

EMPLOYMENT

2023 - current

Staff Software Engineer, Quantum Control. Q-CTRL Pty. Ltd.. Sydney, NSW, Australia.

2021 - 2023

Lead Software Engineer, Quantum Control (Australia). Q-CTRL Pty. Ltd.. Sydney, NSW, Australia.

2019 - 2021

Senior Quantum Control Engineer. Q-CTRL Pty. Ltd.. Sydney, NSW, Australia.

2018 - 2019

Postdoctoral Associate. Duke University. Durham, NC, United States.

EDUCATION

2012 - 2016

Doctorate in Physics. University of São Paulo. São Carlos, SP, Brazil.

2010 - 2012

Master's Degree in Physics. University of São Paulo. São Carlos, SP, Brazil.

2006 - 2009

Bachelor's Degree in Physics. University of São Paulo. São Carlos, SP, Brazil.

PAPERS

Software tools for quantum control. Harrison Ball, Michael J. Biercuk, André R. R. Carvalho, Jiayin Chen, Michael Hush, Leonardo Andreta de Castro, Li Li, Per J. Lieberman, Harry J. Slatyer, Claire Edmunds, Virginia Frey, Cornelius Hempel, Alistair Milne. Quantum Science and Technology 6 044011 2021.

Generating fault-tolerant cluster states from crystal structures. Michael G. Newman, Leonardo Andreta de Castro, Kenneth R. Brown. Quantum 4 295 2020.

Real-time calibration with spectator qubits. Swarnadeep Majumder, Leonardo Andreta de Castro, Kenneth R. Brown. npj Quantum Information 6 19 2020.

An introduction to quantum measurements with a historical motivation. Leonardo Andreta de Castro, Olímpio Pereira de Sá Neto, Carlos Alexandre Brasil. Acta Physica Slovaca 69 1 2019.

Weak values in collision theory. Leonardo Andreta de Castro, Carlos Alexandre Brasil, Reginaldo de Jesus Napolitano. Annals of Physics 392 272-286 2018.

Elliptical orbits in the phase-space quantization. Leonardo Andreta de Castro, Carlos Alexandre Brasil, Reginaldo de Jesus Napolitano. Revista Brasileira de Ensino de Física 38 e3318 2016.

Error correction in short time steps during the application of quantum gates. Leonardo Andreta de Castro, Reginaldo de Jesus Napolitano. Annals of Physics 367 199-211 2016.

Understanding the pointer states. Carlos Alexandre Brasil, Leonardo Andreta de Castro. European Journal of Physics 36 065024 2015.

Efficient finite-time measurements under thermal regimes. Carlos Alexandre Brasil, Leonardo Andreta de Castro, Reginaldo de Jesus Napolitano. European Physical Journal Plus 129 206 2014.

How much time does a measurement take?. Carlos Alexandre Brasil, Leonardo Andreta de Castro, Reginaldo de Jesus Napolitano. Foundations of Physics 43 642-655 2013.

Protecting a quantum state from environmental noise by an incompatible finite-time measurement. Carlos Alexandre Brasil, Leonardo Andreta de Castro, Reginaldo de Jesus Napolitano. Physical Review A 84 022112 2011.

CONFERENCES

APS March Meeting. 2019. Boston, MA, United States.

AIP Summer Meeting. 2017. Sydney, NSW, Australia.

International Conference on Squeezed States and Uncertainty Relations (ICSSUR) and Feynmanfest. 2010. Foz do Iguaçu, PR, Brazil.