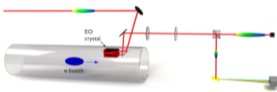# PhD Student Felipe Donoso
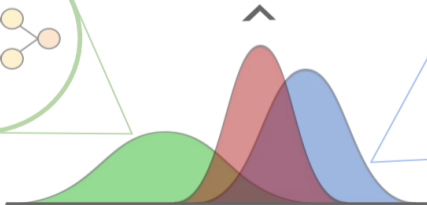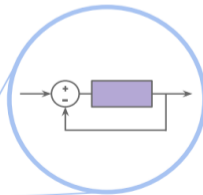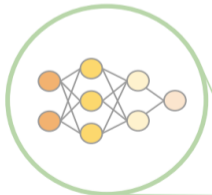
Background: Electrical Engineering - Automatic Control - Smart Machines

RL4AA'23 workshop │ 20th February 2023

EO crystal

e-bunch

Vlasov-Fokker- Planck

$$\frac{\partial f}{\partial t} + \frac{\partial f}{\partial q} \cdot \frac{\partial H}{\partial p} - \frac{\partial f}{\partial p} \cdot \frac{\partial H}{\partial q} = 2\beta \frac{\partial}{\partial p} \cdot (pf) + D \frac{\partial}{\partial p} \cdot \frac{\partial}{\partial p} f$$

I'm interested in:

My research at IBPT

- The connection of physics models (e.g., partial differential equations) with machine learning (neural networks) for solving inverse problems.
- Tomography methods for the phase-space reconstruction of electron bunches in accelerators.
- Terahertz tomography for medical applications.

- Control of non-linear processes, complex simulations, and algorithm development for science and industrial applications.