The quantization process

Classical mechanics

configuration variables

\[ q^k = \frac{d q^k}{dt} \]

source variables

\[ Q_h = \{ p_h, H \} \]

\([...]= \text{Poisson brackets} \]

Quantum mechanics (Heisenberg formulation)

configuration variables

\[ q(t) \text{ position matrix} \]

\[ v(t) \text{ velocity matrix} \]

source variables

\[ Q = \frac{d p}{dt} \]

\[ Q(t) \text{ force matrix} \]

\[ p(t) \text{ momentum matrix} \]

Ref: Born, M.; Jordan, P. On Quantum Mechanics, contained in Van der Waerden B.L., Sources of Quantum Mechanics, North Holland, 1967