

**[mex197] Generating a pure Galilei transformation**

Demonstrate the canonicity in phase space of a pure Galilei transformation,

$$\mathbf{R} = \mathbf{r} + \mathbf{v}t \quad \text{with } \mathbf{v} = \text{const.}$$

Find the generating function  $F_2(\mathbf{r}, \mathbf{P}, t)$ .

**Solution:**