A Mechanical Model for Phase Transitions[1]

A.1 (0.5 pt)
Equations of motion

B.1 (1.0 pt)
Equilibrium angle(s)

$\theta_0 =$

B.2 (0.5 pt)
Sketch of θ_0.

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B.3 (0.5 pt)
Sketch of the magnitude of the normal reaction

B.4 (1.0 pt)
The potential

$P =$

$Q =$

$S =$

B.5 (1.0 pt)
The coefficients

$a(\omega) =$

$b(\omega) =$

B.6 (1.0 pt)
Representative plots of the potential

B.7 (1.0 pt)
Bead analogues
$\mathcal{M} \longrightarrow$

$T/T_c \longrightarrow$

$\beta =$

B.8 (1.0 pt)
Oscillation frequency

Ω_0=

B.9 $(1.0\ \text{pt})$
Sketch of Ω_0

C.1 $(1.0\ \text{pt})$
Condition for equilibrium angles

$x =$

$y =$

C.2 $(0.5\ \text{pt})$
Representative values for θ_0
(a) θ_0 =

(b) θ_0 =