Worksheet #8
(Friday, October 18, 2019)

Name

Question (5 pts):

Consider unitary transformation of an operator $A$:
$A' = U A U^+$

If $U = I + i\varepsilon G$, where $I$ is the identity operator, $\varepsilon$ is a real infinitesimal number, and $G$ is a Hermitian operator, what is $A'$? In your derivation, neglect a term proportional to $\varepsilon^2$.

Under what condition $A$ doesn’t change under this unitary transformation? Can you think of any physical meaning behind this result?