Problem Set 2

Brandon Henke[1]

[1]*Michigan State University - Department of Physics & Astronomy*

Last updated: September 16, 2022

I SAKURAI 1.5

It's a rotation, of course it's invariant.

$$a_1' = a_1 \cos\phi + a_2 \sin\phi. \qquad (\text{I.1})$$
$$a_2' = a_2 \cos\phi - a_1 \sin\phi. \qquad (\text{I.2})$$
$$a_3' = a_3. \qquad (\text{I.3})$$

This is a rotation of the vector $a = a^k \sigma_k$ through an angle of ϕ in the xy plane ($\sigma_1\sigma_2$ plane).

II SAKURAI 1.14

III SAKURAI 1.15

IV SAKURAI 1.21

V SAKURAI 1.25