Step-1

Let A^H be the complex conjugate of the square complex matrix A. Find the Eigen values of A^H, related to Eigen values of the square complex matrix A.

Eigen values of the square complex matrix A is calculated as below:

$$\det\left(A-\lambda I\right)=0$$

Here, λ is an Eigen value of matrix A.

If complex conjugate is considered then:

$$\det\left(A^H-\bar{\lambda} I\right)=0$$

Here, $\bar{\lambda}$ is an Eigen value of A^H.

Step-2

Therefore, Eigen values of A^H are complex conjugate $\boxed{\bar{\lambda}}$ of Eigen value of matrix A.