**APPENDIX:**

In the appendix, the Jacobian of equations (12) and (13) is explained in detail. In the derivation, we unmistakably omit the superscript and subscript variables. First, we use the perturbation model  for the rotating part to obtain the new closest point :

 （1）

Then, the Jacobian of with respect to the angle increment  is:

 （2）

Similarly, we can get the new closest point  by using the perturbation model  for the translation part:

 （3）

The Jacobian of with respect to the translation  is:

 （4）