

## 5. CONCLUSION

Analysis of crack branching are carried out using finite element method. Different crack branching geometry are studied on the  $K_I$ . Based on simulation result for modeling that has been made, some conclusions can be drawn. Firstly, as the main crack length increase, the  $K_I$  value increase. Secondly, as the crack branching length increase, the  $K_I$  value increase. Thirdly, the crack branching orientation effect is dependent on another parameter such as crack branching length, ratio of length-width plate. Finally, the value of  $K_I$  increase as the ratio of length-width plate decrease.

