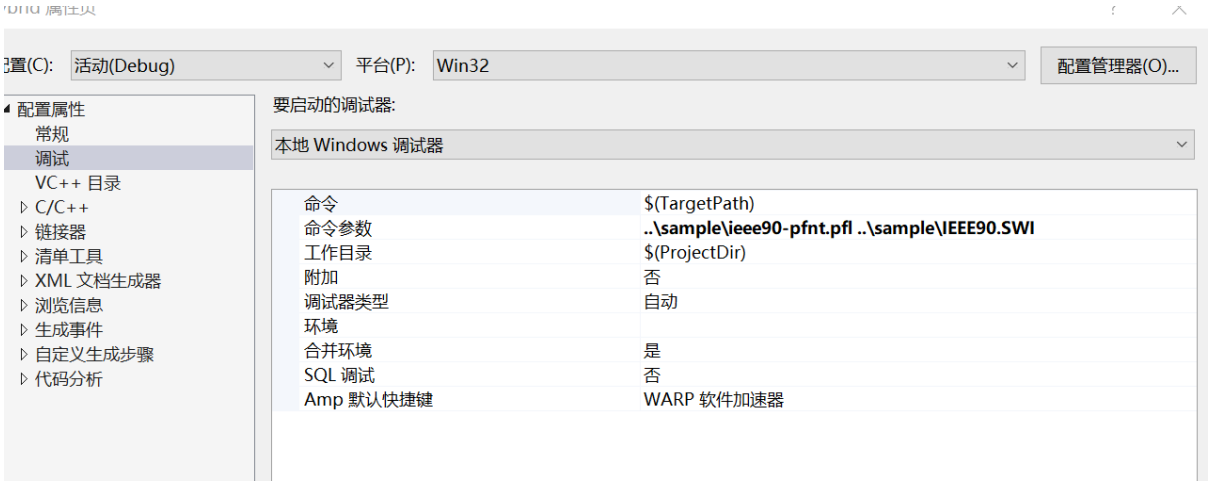
Simulation Test for the Open_TopoHybrid

1. Compiler steps

The input file is shown below:



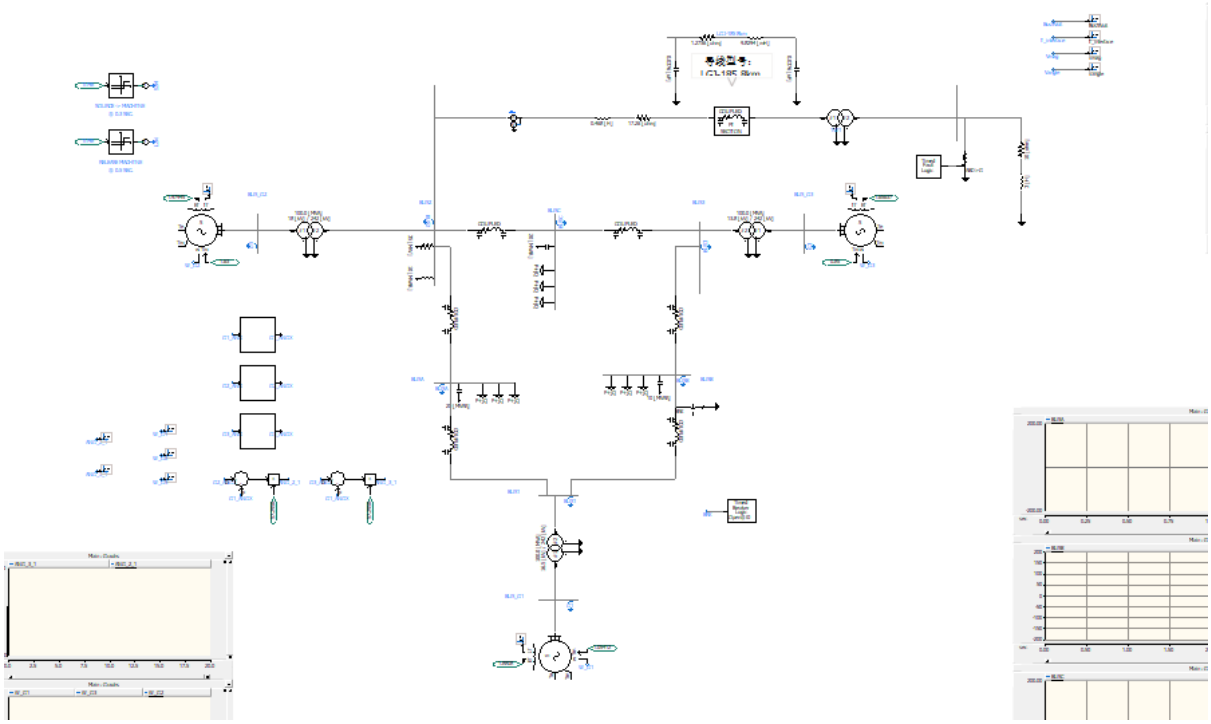
Where the ..\sample\ieee90-pfnt.pfl is the power flow obtained by PSD-BPA. Also you could obtain the desired file by the **pfnt.exe in our file.** The input data is **ieee90.dat.**

2. Input datafile in PSCAD.if

The Topohybrid1.dat should be included in the .if file in the PSCAD, where Topohybrid1.dat denote the Thevenin equivalent circuit.

3. Simulation Test

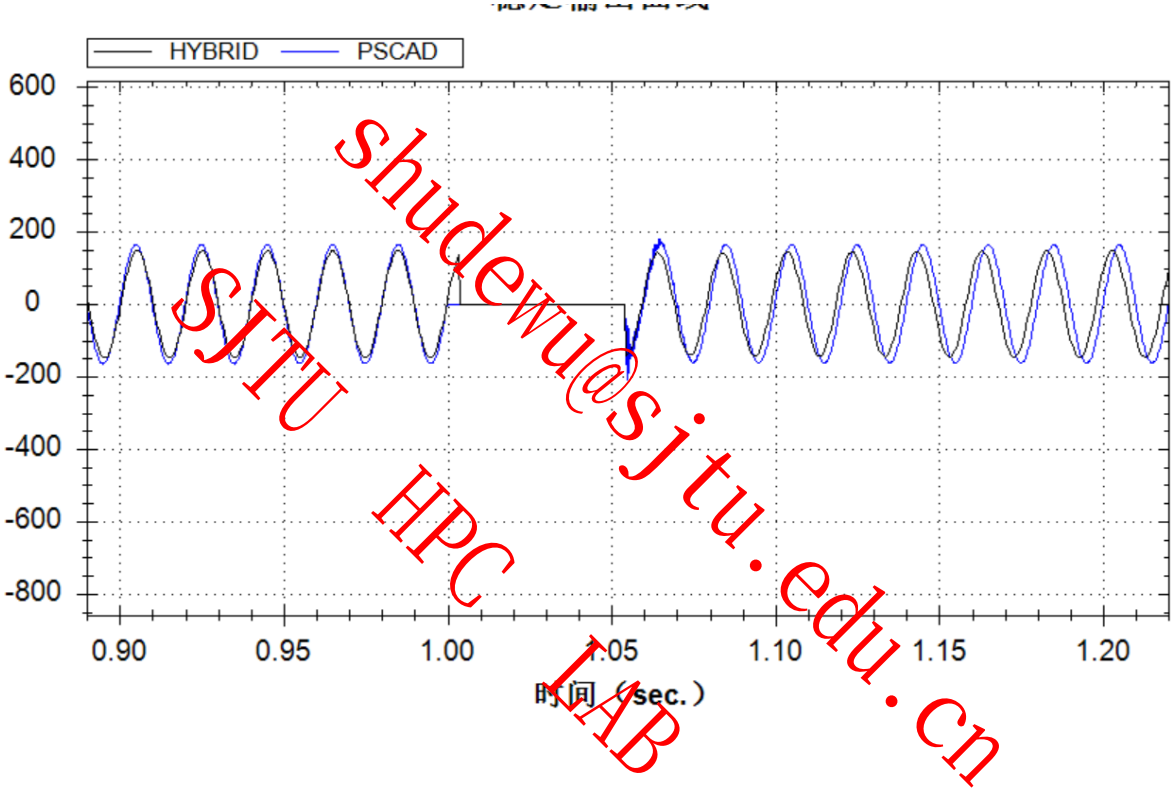
The test case is shown below:

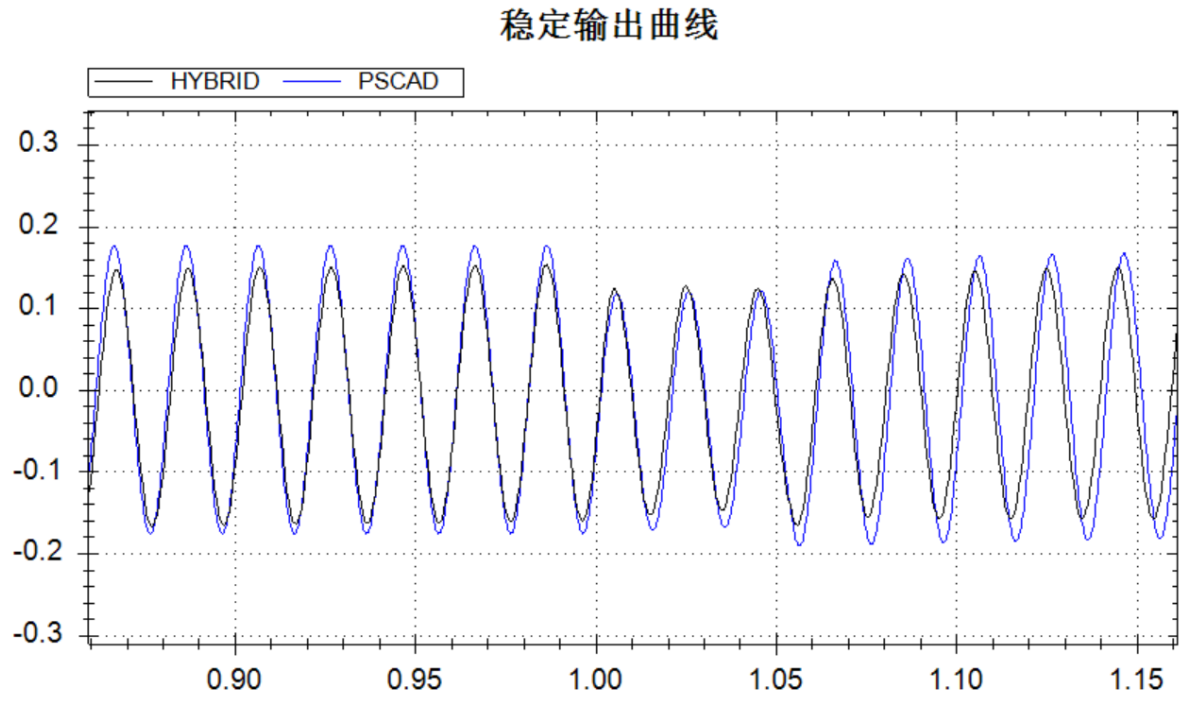


Where the IEEE9 and an asymmetric fault is simulated and compared with the benchmark PSCAD result.

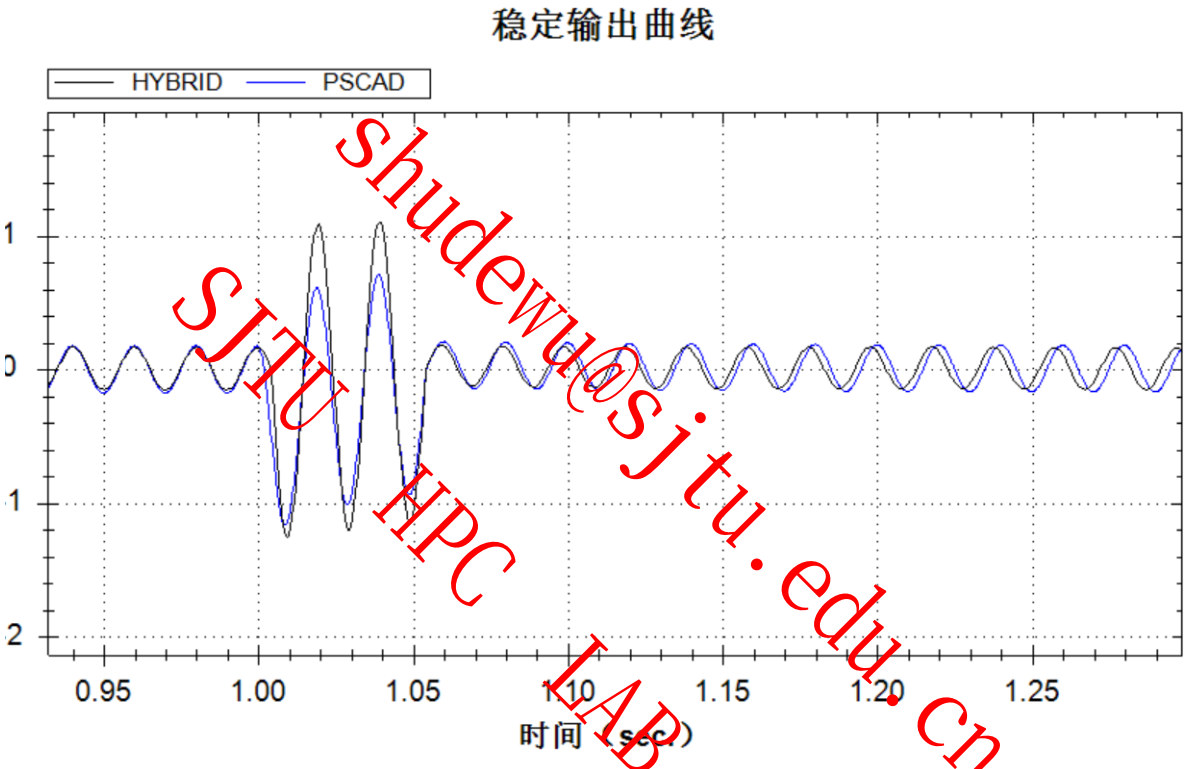
4. Simulation result comparisons

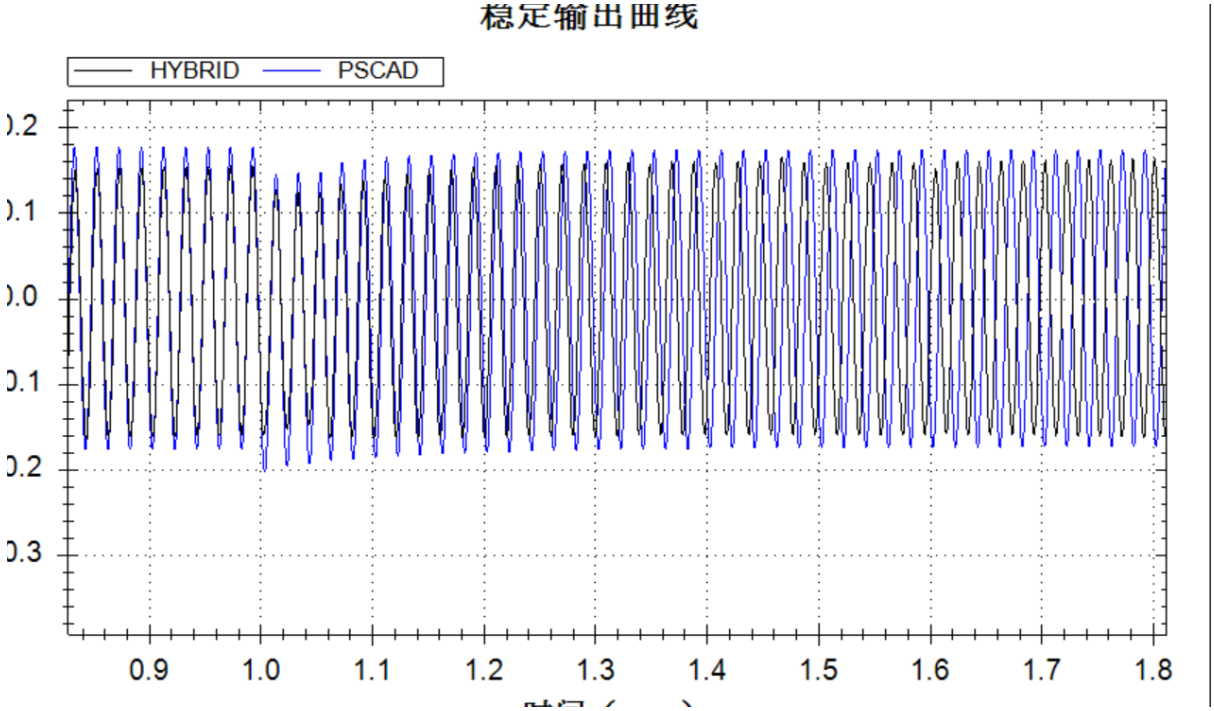
The interface voltages are compared below:





The interface curents are compared below:





参考文献

[1] D. Shu, X. Xie, Z. Yan and V. Dinavahi, "A Two-Layer Network Equivalent With Local Passivity Compensation With Applications to Hybrid Simulations of MMC-Based AC–DC Grids," in IEEE Transactions on Power Systems, vol. 34, no. 6, pp. 4514-4524, Nov. 2019.

[2] D. Shu, X. Xie, V. Dinavahi, C. Zhang, X. Ye and Q. Jiang, "Dynamic Phasor Based Interface Model for EMT and Transient Stability Hybrid Simulations," in IEEE Transactions on Power Systems, vol. 33, no. 4, pp. 3930-3939, July 2018.

[3] D. Shu, X. Xie, Q. Jiang, Q. Huang and C. Zhang, "A Novel Interfacing Technique for Distributed Hybrid Simulations Combining EMT and Transient Stability Models," in IEEE Transactions on Power Delivery, vol. 33, no. 1, pp. 130-140, Feb. 2018.