Contribution ID: **445** Type: **Poster (+) Presentation**

Numerical simulation of EGS thermal recovery in Multi-stage Hydraulic Fractured Horizontal Wells

Thursday, 3 June 2021 14:40 (1 hour)

Enhanced Geothermal Systems (EGS) is an effective way to develop deep geothermal energy at high temperature, in order to improve the thermal recovery efficiency of EGS, the multi-stage hydraulic fractured horizontal well technology can effectively transform the reservoir, making the fracture generated by hydraulic fracturing the main heat transfer channel and improving the heat transfer efficiency. Based on the heterogeneity of the reservoir, this paper established the EGS thermal recovery model of multi-stage hydraulic fractured horizontal well. The finite difference method was used to solve the model. The temperature field in the transformed reservoir at different times was obtained, the water breakthrough time of each fracture was calculated, and the parameter sensitivity analysis was carried out. The research results show that the established EGS thermal recovery model can better reflect the heat conduction characteristics of the matrix and the fluid in the fracture, the matrix thermal conductivity coefficient, fracture width, length, number of fractures, thermal recovery time, all have different effects on the temperature field. This study can provide scientific basis for EGS thermal recovery modeling of staged fractured horizontal Wells, and has reference significance for EGS development.

Time Block Preference

Time Block A (09:00-12:00 CET)

References

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Session Classification: Poster +

Track Classification: (MS17) Thermal Processes, Thermal Coupling and Thermal Properties of Porous Media: modeling and experiments at different scales