**Introduction:** Microwave heating is known for its efficiency and instantaneity. However, the non-uniformity of the microwave heating has limited the development of its application in industry. In order to solve this problem, a metal patch sticking to the turntable was proposed.

**Calculation Method:** In the model, the electromagnetic field and heat transfer are coupled with each other. The flow chart is showed in Figure 2.

![Fig 1. 3D Schematic of microwave heating device](image1)

![Fig 2. Calculation flow chart](image2)

**Results:** The calculation results of temperature distribution are shown as follows.

![Fig 3. The temperature distribution in 1s, 3s, 5s without a metal patch](image3)

![Fig 4. The temperature distribution in 1s, 3s, 5s with a metal patch which radius is 0.005m](image4)

![Fig 5. The temperature distribution in 1s, 3s, 5s with a metal patch which radius is 0.010m](image5)

![Fig 6. The temperature distribution in 1s, 3s, 5s with a metal patch which radius is 0.015m](image6)

**Conclusions:** The simulation results indicated the notable improvement of the heating uniformity owing to the metal patch. This would be helpful to improve the uniformity of the microwave heating in industrial application.