Contribution ID: **239**   Type: **oral**

A new method for Micromegas fabrication

Wednesday, 24 May 2017 15:12 (18 minutes)

We have developed a new method for fabricating Micromegas detectors based on thermal bonding technique. A high gain (>10000) and a good energy resolution of 16% (FWHM, 5.9 KeV x-rays) can be obtained for Micromegas detectors built with this method. In order to reduce sparking rate of the detectors, we have also studied resistive anodes by Germanium plating and carbon paste screen printing techniques. Combining the thermal bonding technique with the resistive electrode technique, we have built a 2D position-sensitive Micromegas detector with four-corner readout and a back-to-back double avalanche structure with good performance. This demonstrates the wide range of applications of the new method. This report will describe the new Micromegas fabrication method in various aspects, including its advantages over conventional Micromegas fabrication methods. Results from the prototyping for the development of the new method will also be presented.

Summary

We have developed a new method for fabricating Micromegas detectors based on thermal bonding technique. A high gain (>10000) and a good energy resolution of 16% (FWHM, 5.9 KeV x-rays) can be obtained for Micromegas detectors built with this method. In order to reduce sparking rate of the detectors, we have also studied resistive anodes by Germanium plating and carbon paste screen printing techniques. Combining the thermal bonding technique with the resistive electrode technique, we have built a 2D position-sensitive Micromegas detector with four-corner readout and a back-to-back double avalanche structure with good performance. This demonstrates the wide range of applications of the new method. This report will describe the new Micromegas fabrication method in various aspects, including its advantages over conventional Micromegas fabrication methods. Results from the prototyping for the development of the new method will also be presented.

Primary author: Dr LIU, Jianbei (University of Science and Technology of China)

Presenter: Dr LIU, Jianbei (University of Science and Technology of China)

Session Classification: R2-Gaseous detectors(2)

Track Classification: Gaseous detectors