

Tracking studies with the micromegas detector

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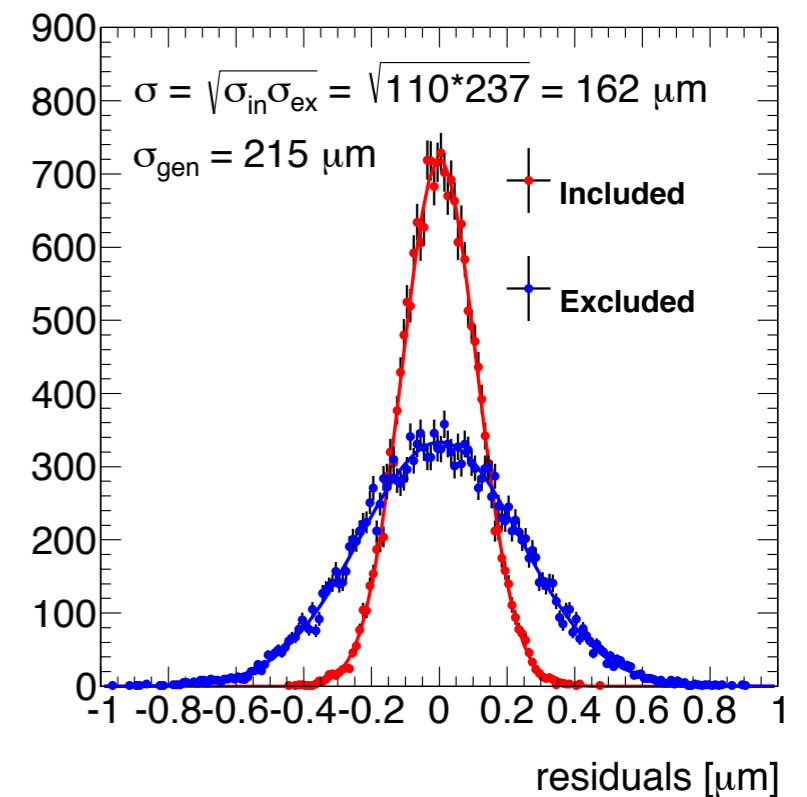
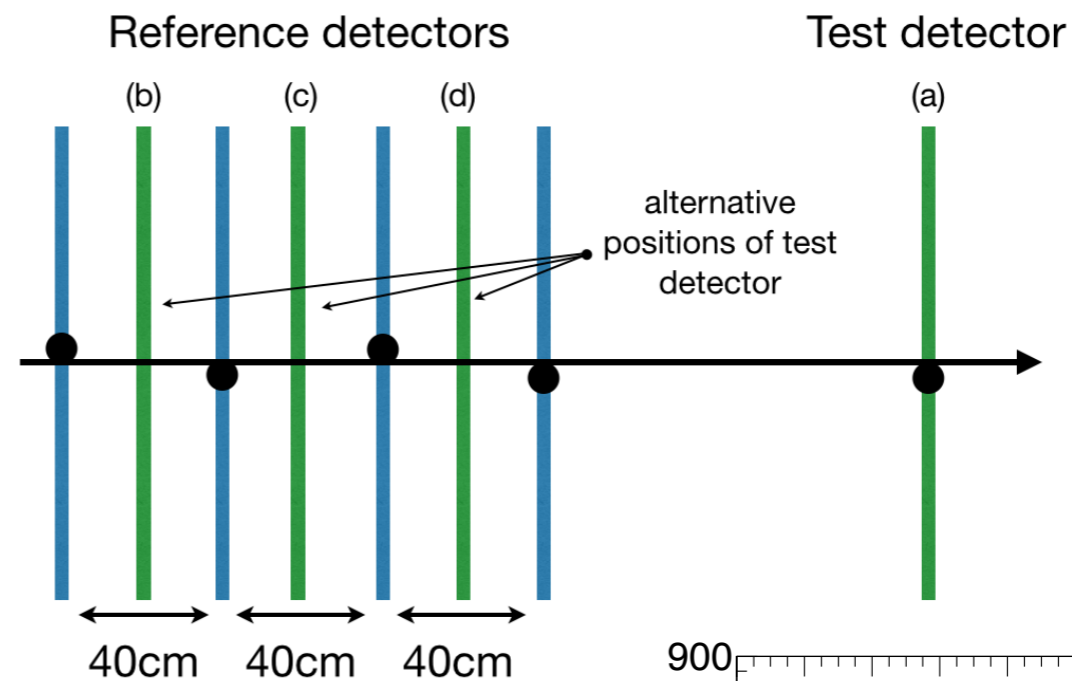
Outline

I. Extraction of spatial resolution using tracks

I.a. Make a track using the reference chambers - calculate residuals (σ_{ex})

I.b. Make a track using all chambers - calculate residuals (σ_{in})

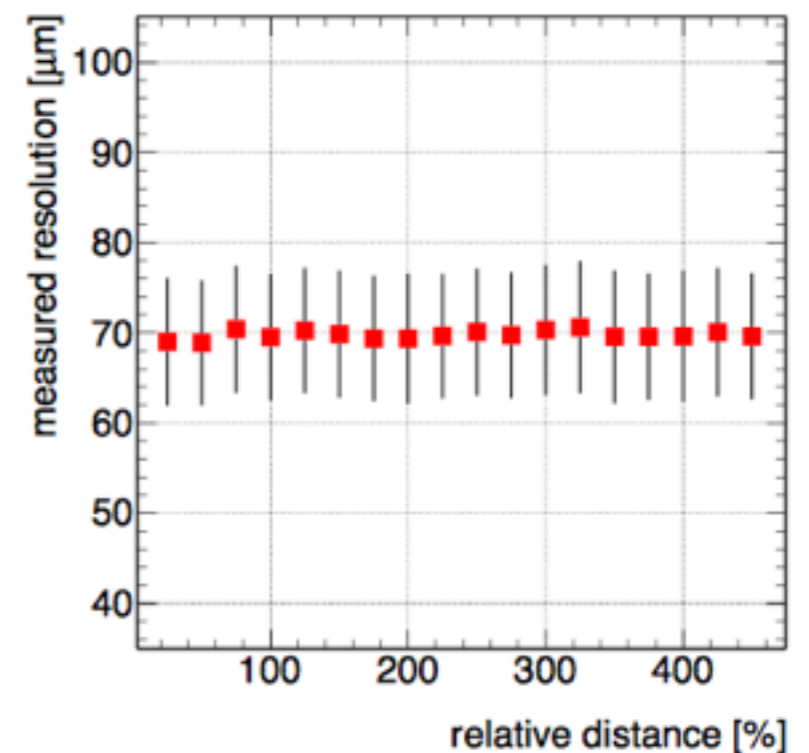
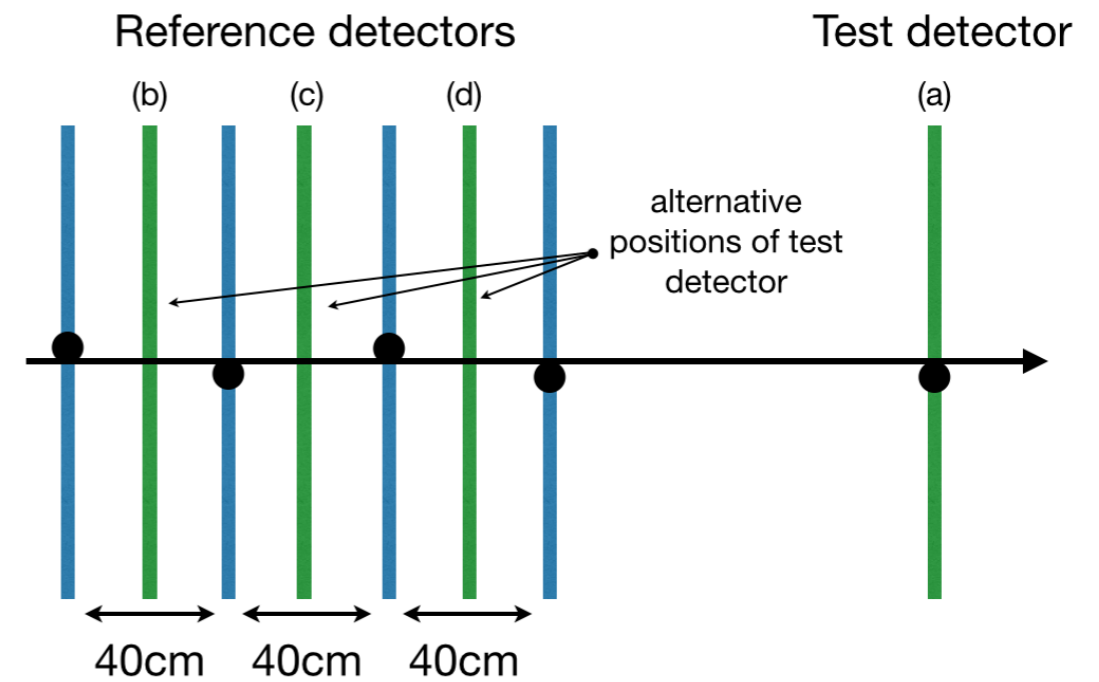
I.c. Best estimate for the true resolution is given by $\sigma^2 = \sigma_{in} \sigma_{ex}$



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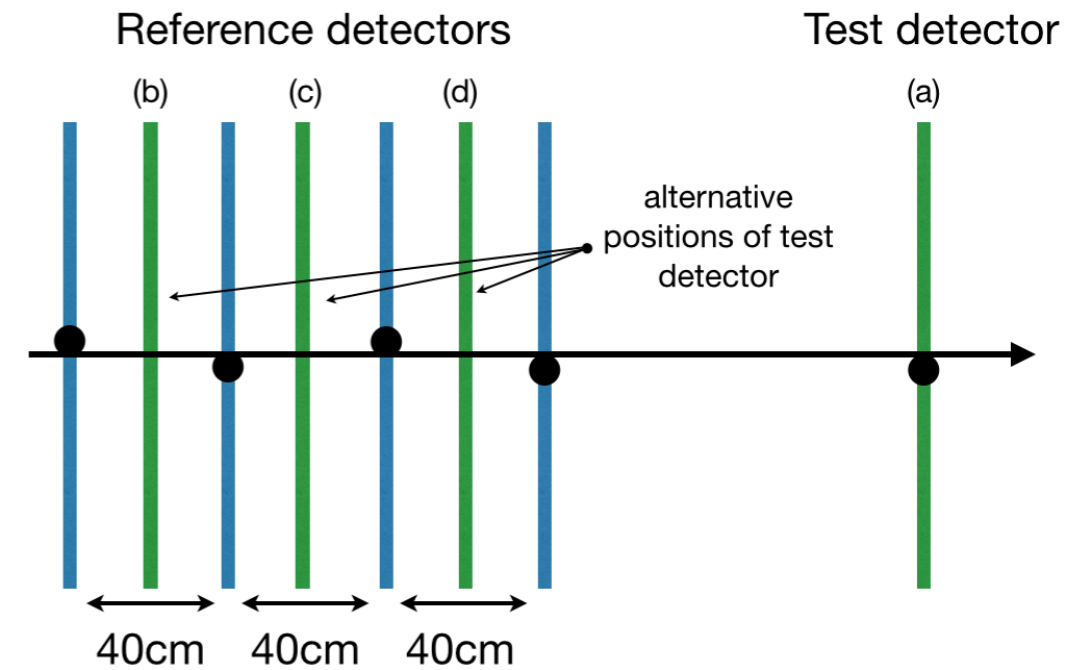
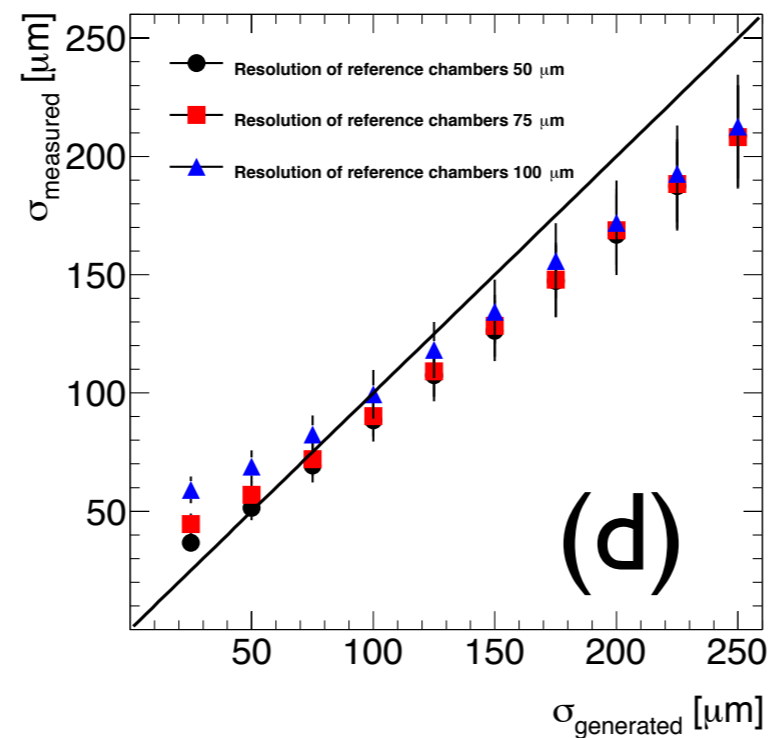
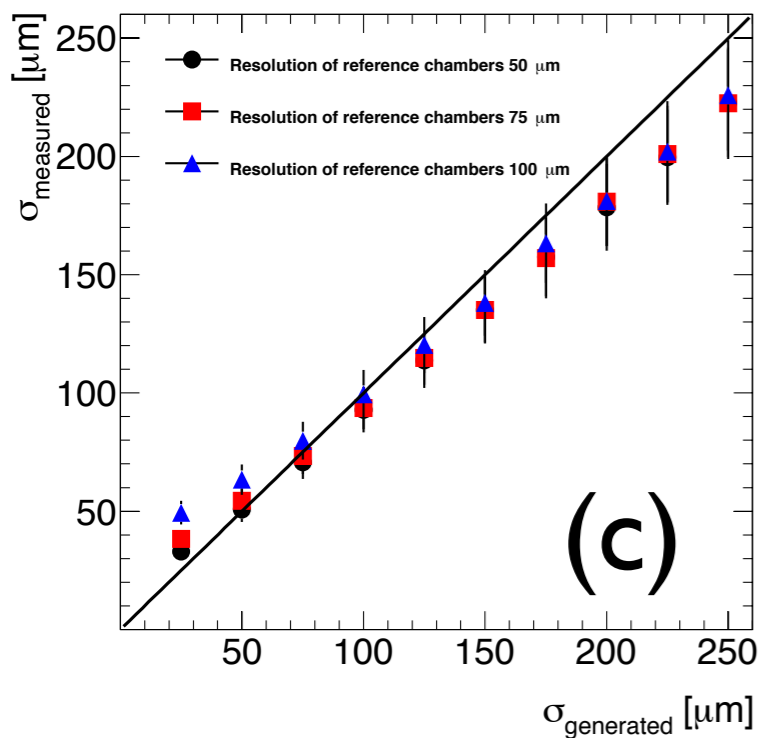
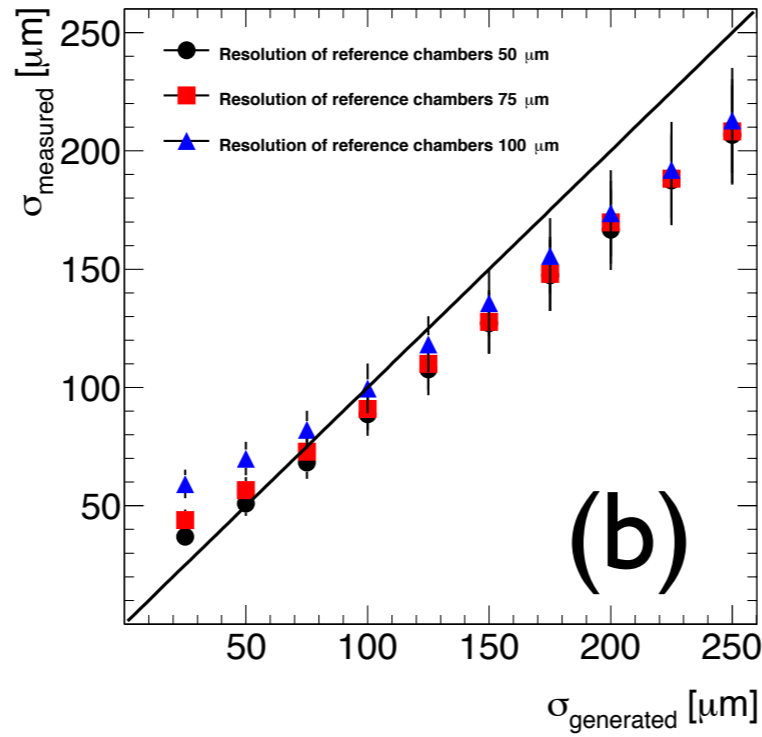
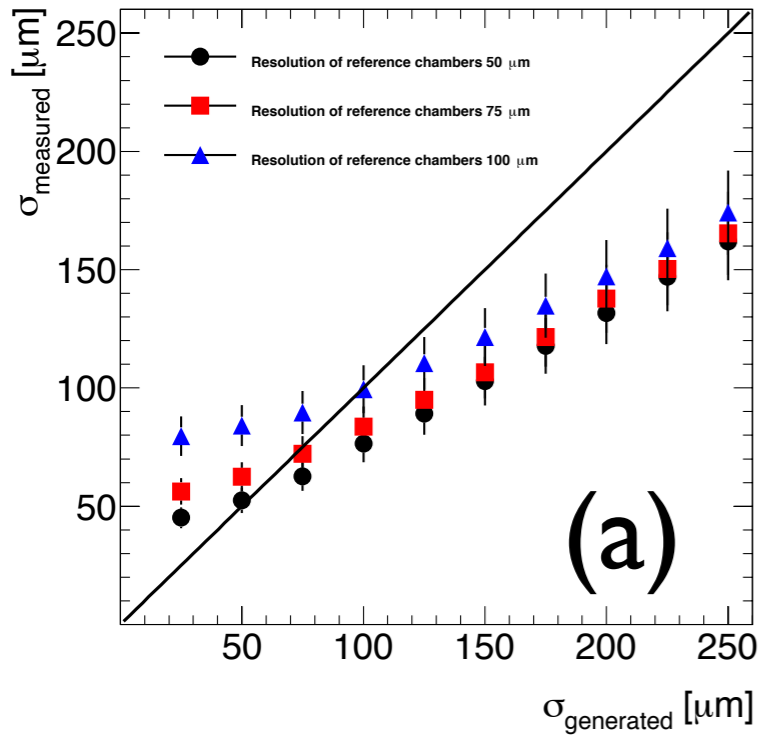
Test of the method

1. We consider 4 reference chambers with same resolution
2. 1 test detector with variable resolution from $35\mu\text{m}$ to $215\mu\text{m}$
3. Consider 3 resolutions for all reference chambers
 - 3.a. $50\mu\text{m}$
 - 3.b. $75\mu\text{m}$
 - 3.c. $100\mu\text{m}$



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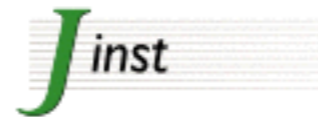
Test of the method



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Conclusion

I. Method can be used only when ALL detectors have the same characteristics.



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Examining the geometric mean method for the extraction of spatial resolution

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