Subject: Wire tension problem
Posted by Clemens Adler on Tue, 21 Sep 2004 08:41:06 GMT
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Hello everybody,
we had a problem with the Meteor last week, and I thought it makes sense to share the information:
We had one chamber where we measured a rather low wire tension of the cathode wires. Eventually it turned out that The meteor did not produce the expected wire tension. This had two reasons:

1. The calibration was off (with a 200 g weigth it measured 250 cN).

2. There is a little brush above the uppermost wheel of the meteor. This wheel is measuring the tension (which I was not aware of). Since I thought the little brush is probably a good idea to remove dust from the wires, but only if it actually touches the wire and the wheel, I placed it in a way that it pushed a little against the wheel. This slight push was enough to create already a 10 cN pressure on the wheel. (In fact I wonder why the brush is there if it has to stay away from the wheel...)

So the conclusion was: after removing the brush, and recalibrating the Meteor (with the 20g calibration wheight that comes with it) everything is fine again. The tension that the Meteor measures during winding corresponds to the tension measured on the frame to within few cN. I do not know how and when the Metor lost the calibration, whether it was happening at once, or whether it was a slow process. So we decided to check with the calibration weigths on a regular basis to be sure that everything is still fine.

Maybe this should also be done at other Labs.

cheers,
Clemens