**Motion of Electron**

**creation of graphs and evaluation of the critical induction**

The program itself can be found here

<http://herodes.feld.cvut.cz/mereni/mernab/mernab.php>

and it can be used for data processing from the **Motion of an electron in crossed electric and magnetic fields** measurement.

It is all in Czech, so here is translation of basic functions.

Pocet hodnot: number of measured points.

Magnetizační proud: magnetizing current (enter it in amperes)

Anodový proud: anode current (enter it in milliamperes)

Napětí na elektronce: anode voltage in volts (50 or 60)

Aproximace: choose between 3rd order or 4th order polynomial approximation. The 4th order approximation is more precise but sometimes there can be two inflection points as a result. To decide which one is the correct one, use also 3rd order approximation. It results just in a single inflection point, which should will be closer to the correct one from the 4th order calculation.

Výsledky výpočtu – the upper graph shows the dependence of anode current Ie on magnetizing current Im and dependence of the first two derivations of the Ie on the Im. The lower graph shows just the dependence of the Ie on the Im.

Numerical results –

* Ic – magnetizing current for the critical magnetic induction
* Bc – critical magnetic induction (needed for further calculation)
* e/me – specific charge of electron

Now you have your results. You can download it like PDF or you can send it yourself by e-mail.