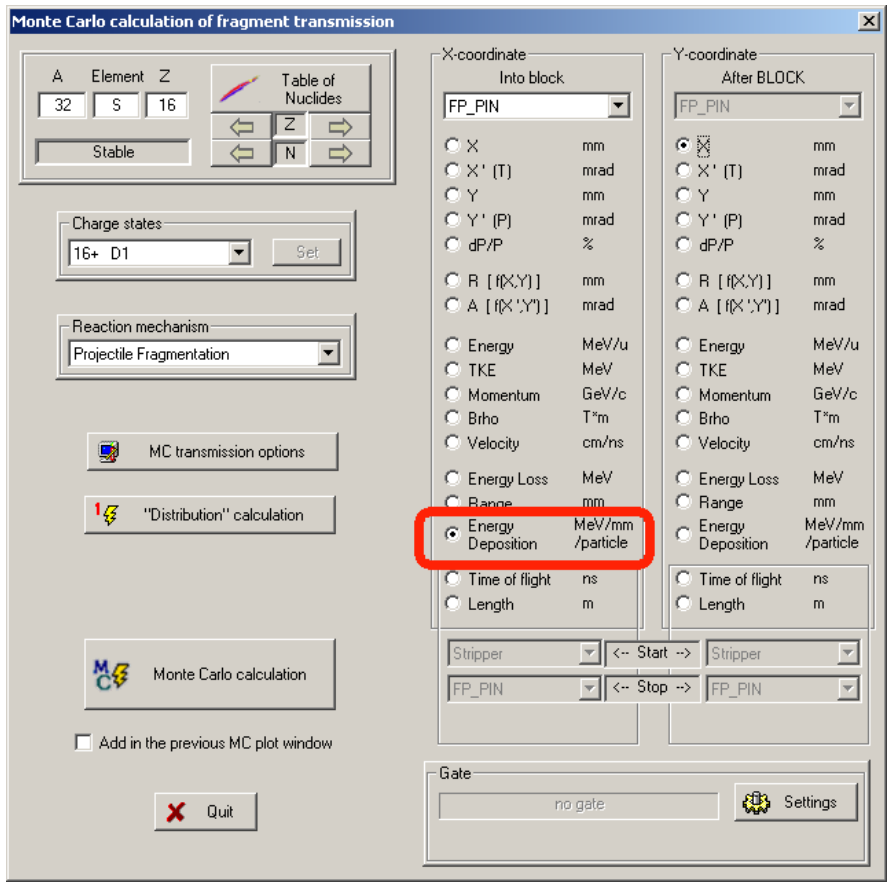
# Energy deposition in materials

## Version 8.0.29

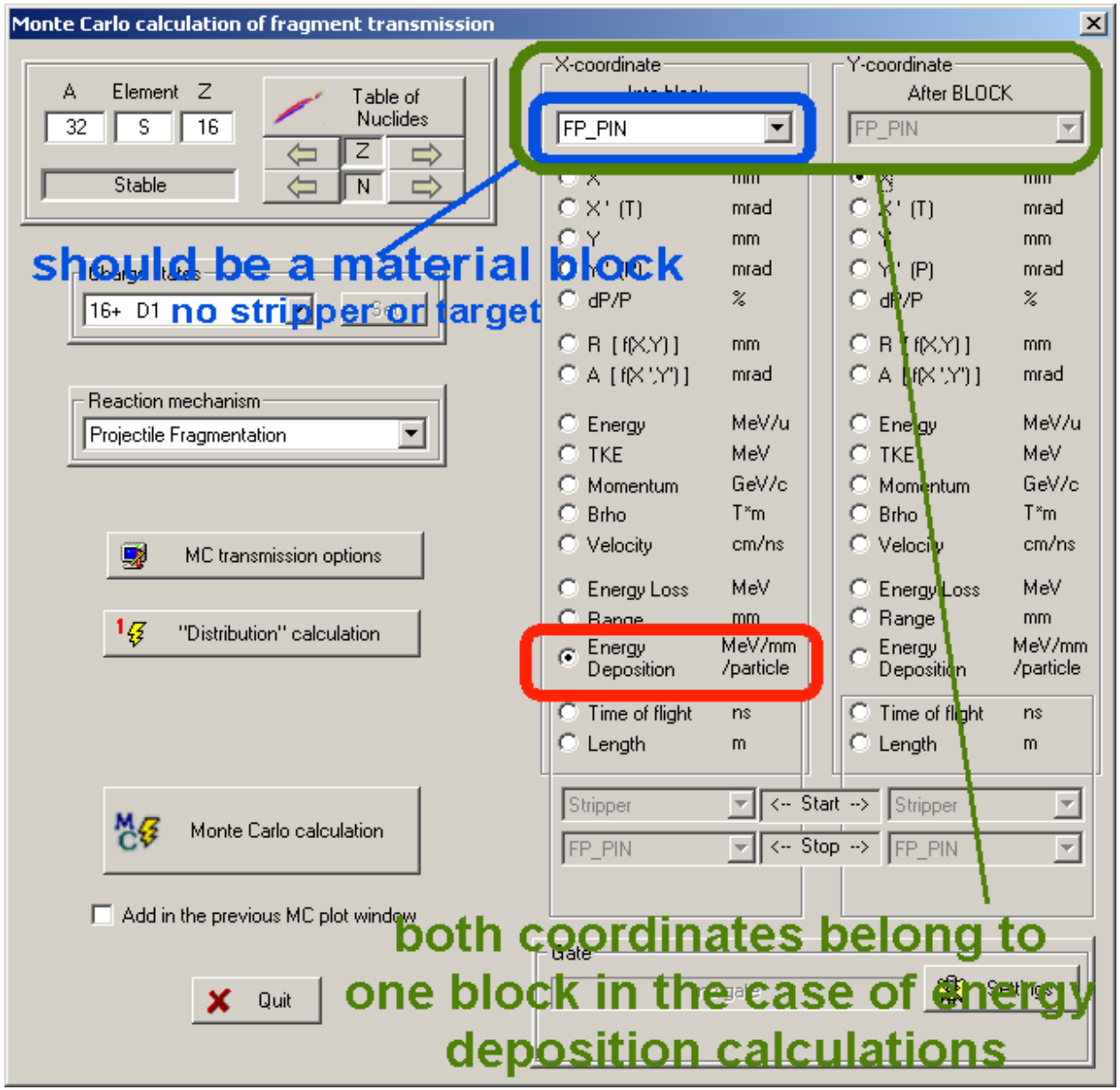



**The code operates under MS Windows environment and provides a highly user-friendly interface. It can be freely downloaded from the following internet addresses:**

**http://www.nscl.msu/edu/lise**

**http://dnr080.jinr.ru/lise**

# MC transmission dialog: Energy deposition in materials




**A chosen material is divided on 2*NP fragments (D_Z), where NP is the dimension of LISE distributions, which can be set in the "Options" dialog.**

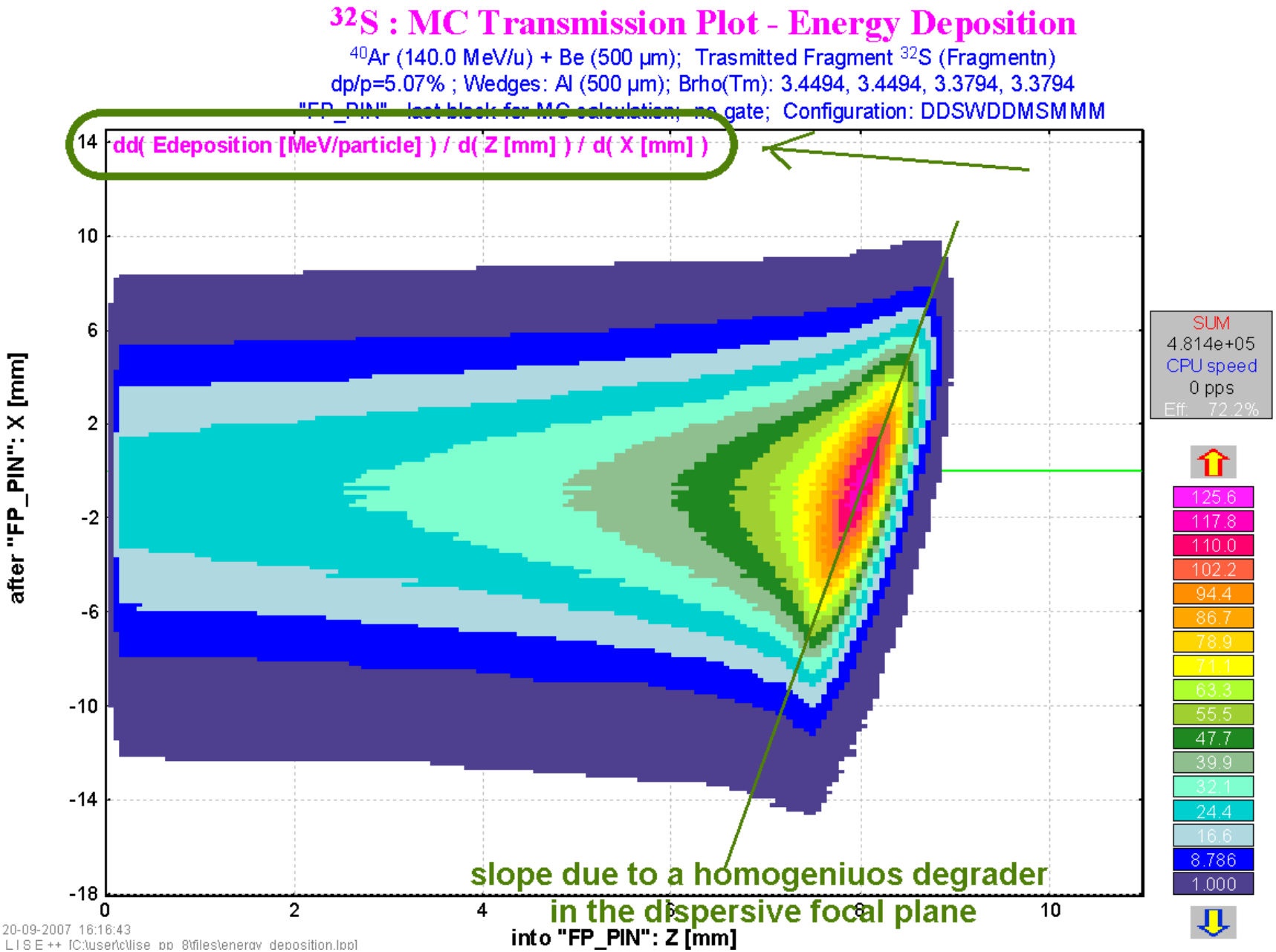
**The code fills two distributions, which after sent to the MC plot subroutine instead two points as it was done for other MC modes.**

**Dimension [E_deposition]:**
***MeV / particle / mm***

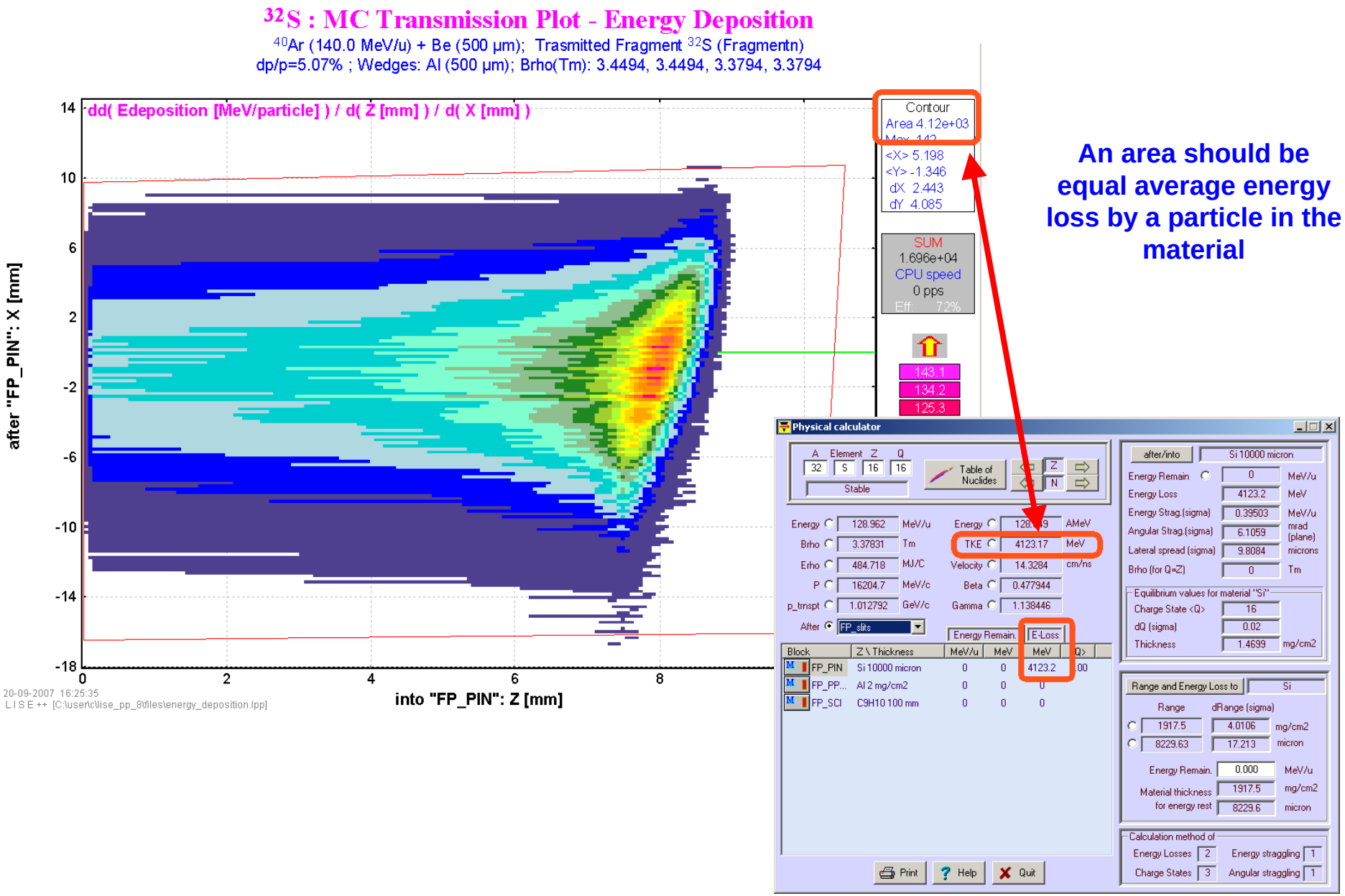
**At point "k" ($Z_k = D\_Z * k$)**

**$Edeposit_k = (Eloss_k - Eloss_{k-1}) / D\_Z$**

# Density distribution : $d^2 E_{deposition} / dZ / X$

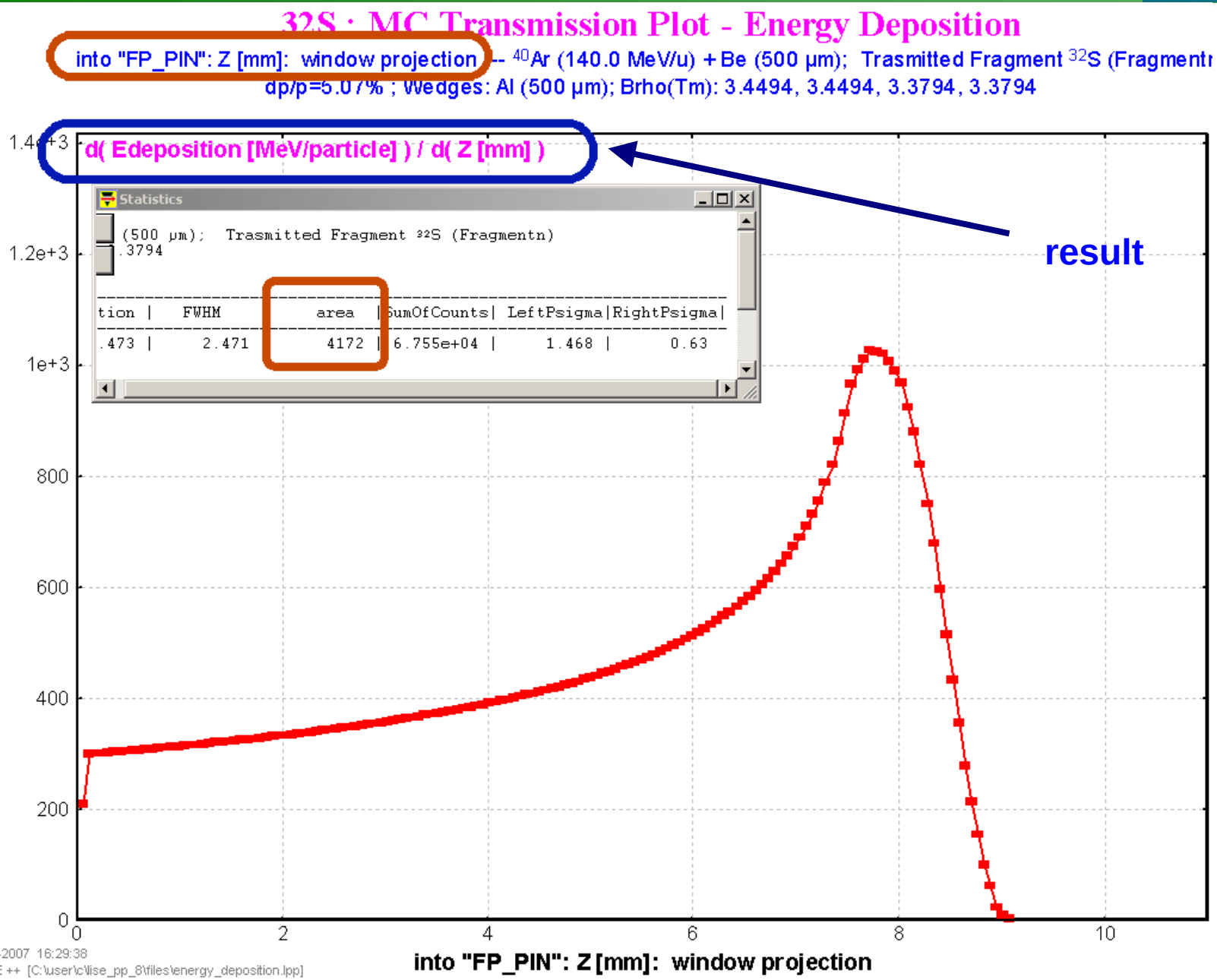


# Area = Integrating( $d^2 E_{deposition}$ / dZ / X) by Z & X

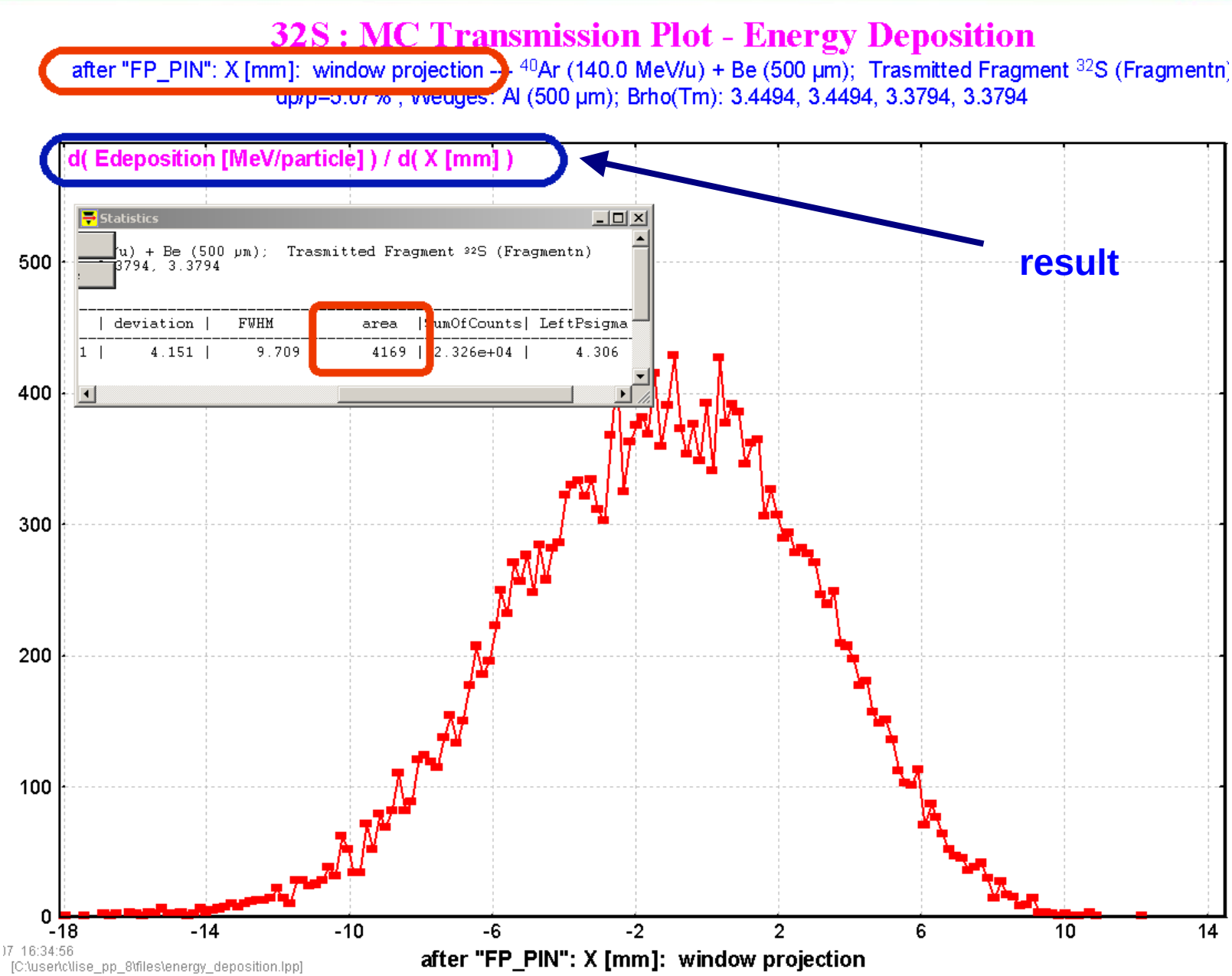



**An area should be equal average energy loss by a particle in the material**

# Projection on Z = Integrating( $d^2 E_{deposition}$ / dZ / X) by X



# Projection on X= Integrating( $d^2 E_{deposition}$ / dZ / X) by Z



# Remarks, Acknowledgement

**No energy deposition calculations for target and stripper.**

**If you'd like to simulate that, then set a target thickness equal to 0, and add a material after the target (stripper) to visualize energy deposition.**

Thanks to
Prof. Dave Morrissey
(NSCL/MSU)
for fruitful discussions

**Recommended NP-value for Energy deposition Calculations is equal to 32**