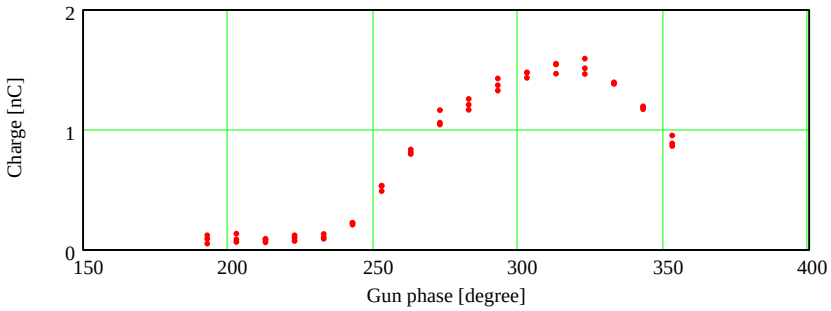
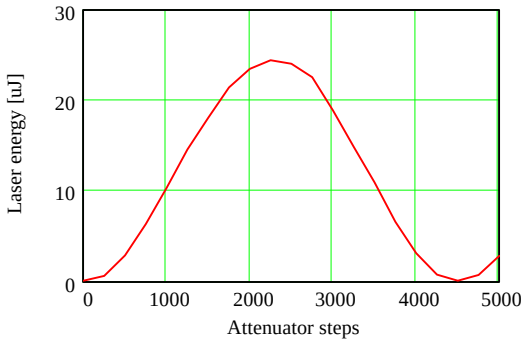
Measured on 07/07/2000

# Photoinjector performance

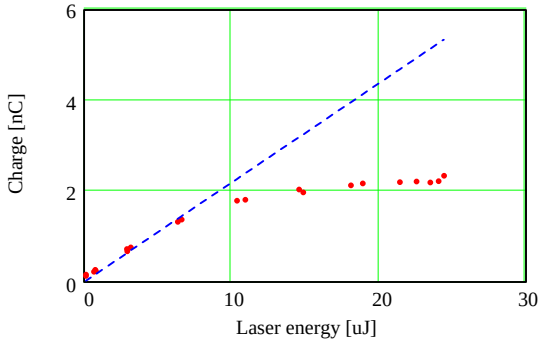
Charge (nC) vs. laser to RF nominal phase (degrees with arbitrary zero point):




Laser energy (microJoules) vs. laser cross polarizer (step number, arbitrary units):




Electron charge (nC) vs. Laser energy on the cathode (microJoules):




## Derived quantities:

Maximum available laser energy [microJoules]: MaxLaserEnergy = 24.546

Space-charge limited laser energy [microJoules]: NomLaserEnergy = 7.589

Quantum efficiency [nC/microJoule]: QuantumEfficency = 0.219

Quantum efficiency [percent]: 0.466QuantumEfficency = 0.102

Maximum (space-charge limitted laser energy) charge [nC]: MaxCharge = 1.594

measured at a laser energy of: LaserEnergyMean = 7.75

and at a nominal gun phase of: MaxGunPhase = 322.753

## Statistics:

Laser energy standard deviation [%] LaserEnergyStdDev = 4.373

Peak to Peak laser energy jitter [%]: LaserEnergyPeak2Peak = 16.126

## Operating point:

Nominal charge [nC]: NomCharge = 0.87

@ Gun Phase [deg]: NomGunPhase = 262.753

Gun Forward Power [Volts]: GunFrwdPower = –1.154