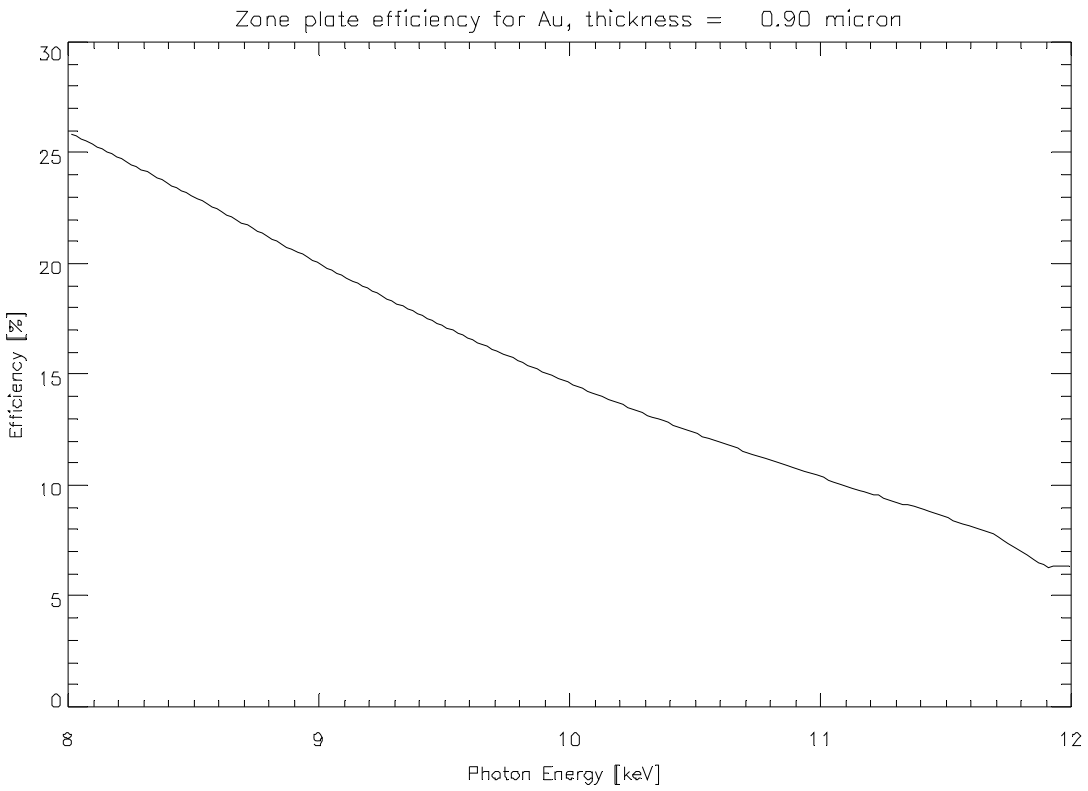
Zone plate drN = 50 nm, D = 240 μm, t = 900 nm

Calculated parameters

```
============================================================
INPUT parameters for zone plate calculations
File name: "Efficiency_Au_t_900_nm_8keV_12keV.txt"
============================================================
SYSTEM parameters
Distance from source [m]                =      74
Vertical Source size [microns, FWHM]    =      24.2050
------------------------------------------------------------
INPUT values
]INPUT] Outermost Zone Width drN [nm]   =      50.0000
[INPUT] Diameter D [microns]            =      240.000
[INPUT] Photon energy [keV]             =      10.0000
      Wavelength [A]                    =      1.23982
[INPUT] Material:                             Au
Material file:
C:\xray_physics\DABAX_files\Au_dabax_brennan_2_6mrad_100eV_100keV.txt
[INPUT] diffraction oder                      1.00000
[INPUT] zone plate thickness [micron]   =      0.900000
------------------------------------------------------------
X-ray Optical constants (interpolated)
Energy used [keV]                       =      10.0000
f1 used                                 =      73.1841
f2 used                                 =      5.16921
delta used                              =  2.97728e-005
beta used                               =  2.10295e-006
mu_l [1/cm] used                        =      2131.43
mu [cm^2/g] used                        =      110.437
sigma [barn]                            =      36120.6
ref_s used                              =      0.950865
ref_p used                              =      0.950862
ref_t (unpol) used                      =      0.950864
------------------------------------------------------------
INTRINSIC ZONE PLATE PARAMETERS
Focal length f [cm]  =      9.67883 at E [keV] =      10.0000
r1 [micron]                             =      3.46410
NA                                      =    0.00123982
DOF [micron]                            =      49.2007
Number of zones for full structure: N   =      1200.00
Diffraction limited spot size (circular aperture) [nm]     61.0000
------------------------------------------------------------
DERIVED ZONE PLATE PARAMETERS
Magnification =    0.00130795 for zone plate at       74 m from source
Image distance b [cm]                   =      9.69150
Spot size [nm]                          =      68.7262
Efficiency =       14.6065% at       10.0000 keV for t =      0.900000  micrometer
------------------------------------------------------------'
Maximum efficiency vs energy [%]        =      25.8432
Optimum energy (at maximum efficiency)[keV] =      8.01366
```


Zone plate efficiency for Au, thickness = 0.90 micron
Efficiency [%]
Photon Energy [keV]
0
5
10
15
20
25
30
8
9
10
11
12

Maser, Feb/09