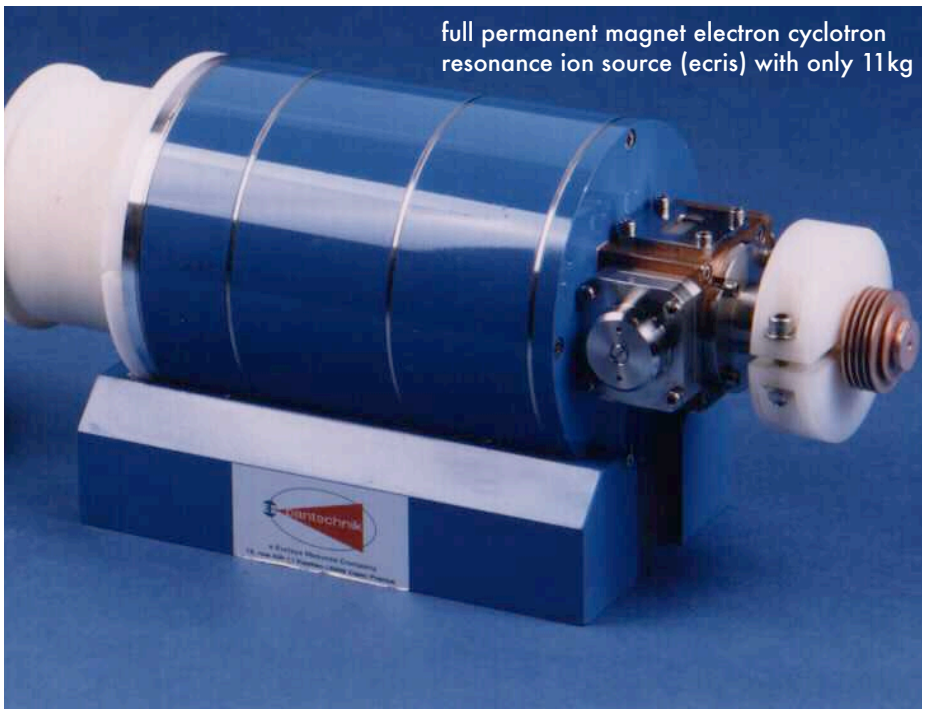
PANTECHNIK

microgan


full permanent magnet electron cyclotron resonance ion source (ecris) with only 11kg

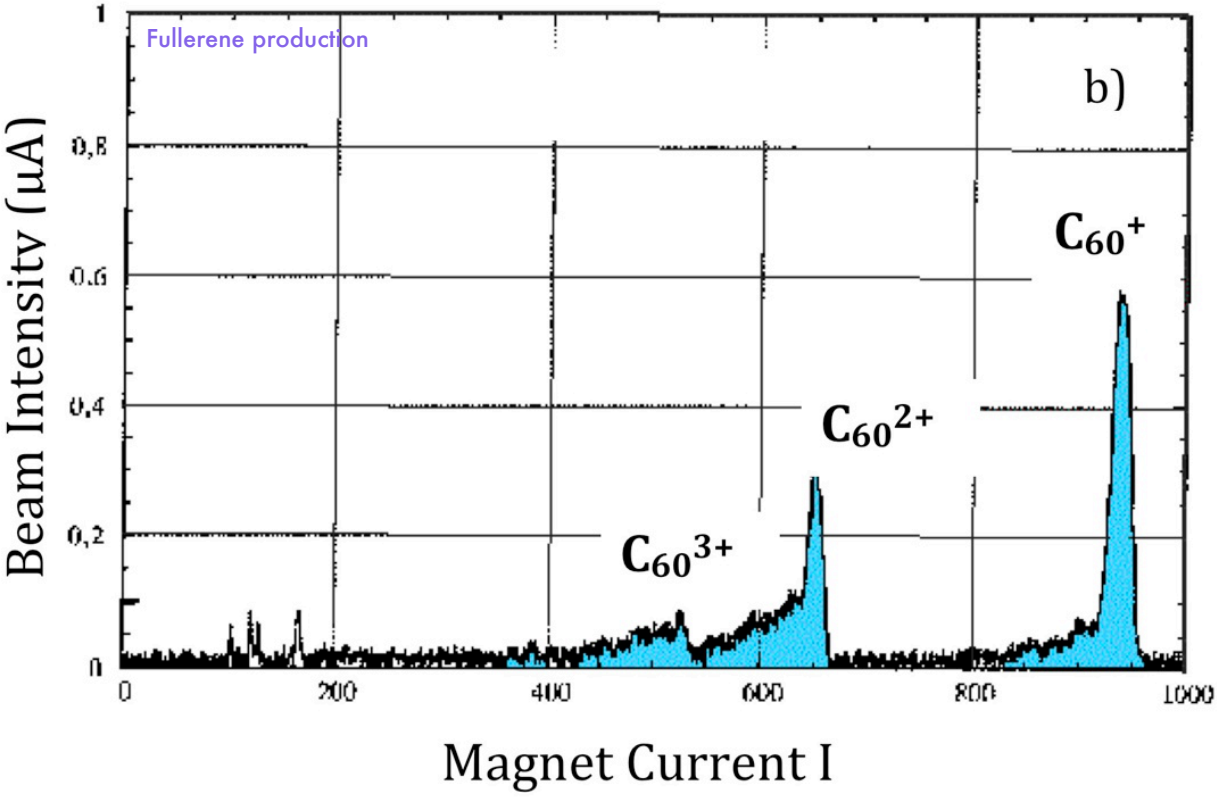
Compact, Reliable, Good performance, Cost-effective, Fixed or Variable Magnetic Field

Microgan is an ECR ion source,

which the magnetic circuit is entirely made with permanent magnets both for the radial and longitudinal fields, so the total electrical power is extremely low. The weight of the source is 13kg. Its well suited for monocharged ions production, but it has reasonable performance for relatively low charge states production. Microgan can run with RF power up to 200W (if water cooled) at 10GHz depending on the element and charge state needed. The maximum extracting voltage is 30 kV. This ion source is working in several laboratories and can also be installed in High voltage platforms, Van de Graaf or even Tandems terminals.

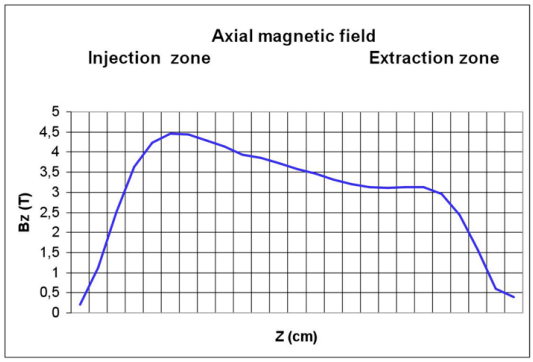
ion / Q	1	2	4
H	7000		
He	5000		
Ar	2000	1300	400

Beam intensity for various charge states given in electric µA

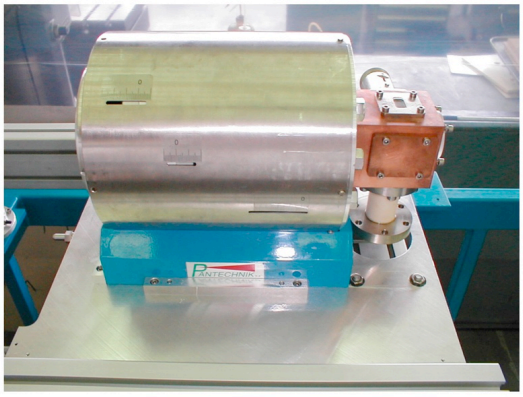


Fullerene production with Microgan

results obtained at IPN-Orsay, France



Microgan permanent magnet with variable axial magnetic field ECR ion source is well suited for production of C_{60} ions (see figure on top). A beam intensity of the order of 600 nA for C_{60} (1+) was observed using the axial magnetic field shown in the left figure. The overall efficiency of ionization is of the order of 50%, for 10^{13} molecules/s injection. The shown magnetic field also allows almost no fragmentation. These results are a courtesy of Prof. Serge Della-Negra (IPN-Orsay, France) Data were obtained with 50W RF power (10GHz) and extraction voltage of only 1.6 kV.



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