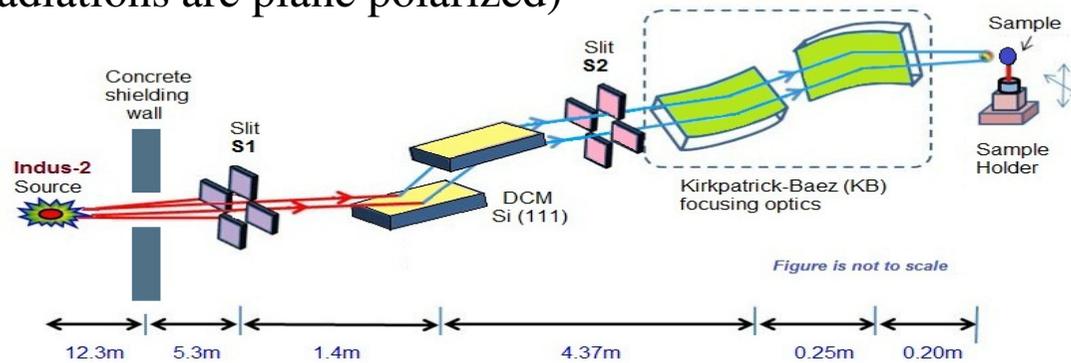


Improvement of Detection Limits for Elements in graphite using SR-EDXRF

(in collaboration with SUS, RRCAT)

- Beam current : 50-100 mA (~ 1000 times higher that of laboratory X-ray tube)
- The radiation energy can be tuned from 5 to 20 keV,
- lower background (as synchrotron radiations are plane polarized)

Expected higher sensitivity and improved detection limits



Comparison of the detection limits of impurities in Graphite

Element	L_D Tube based EDXRF (mg kg ⁻¹)	L_D SR-EDXRF (mg kg ⁻¹)	Improvement in L_D upon using SR-EDXRF
Ca	8.5	2.0	4
Cr	1.7	0.15	11
Fe	1.2	0.10	12
Ni	0.98	0.06	16
Zn	0.84	0.04	21
Sr	1.4	0.044	32
Zr	1.9	0.037	46