

## Newport-Microcontrole Kappa Diffractometer Offered for Sale by University of Michigan



A large 6-circle Kappa –geometry goniometer is offered for sale by the X-ray Physics Group of the University of Michigan. The instrument was installed at Sector 7 of the Advanced Photon Source in 1999 and was operated until 2007 for general-purpose x-ray scattering measurements and surface-interface diffraction studies.

The instrument was refurbished by the manufacturer in 2003 with the installation of new, upgraded support jacks and an improved counterbalance system. It is being sold in excellent operational condition complete with Newport MM4005 Control Electronics. Price negotiable.

Enquiries: Prof. Roy Clarke, University of Michigan, Ann Arbor, MI  
[royc@umich.edu](mailto:royc@umich.edu) (734) 764-4466

or--

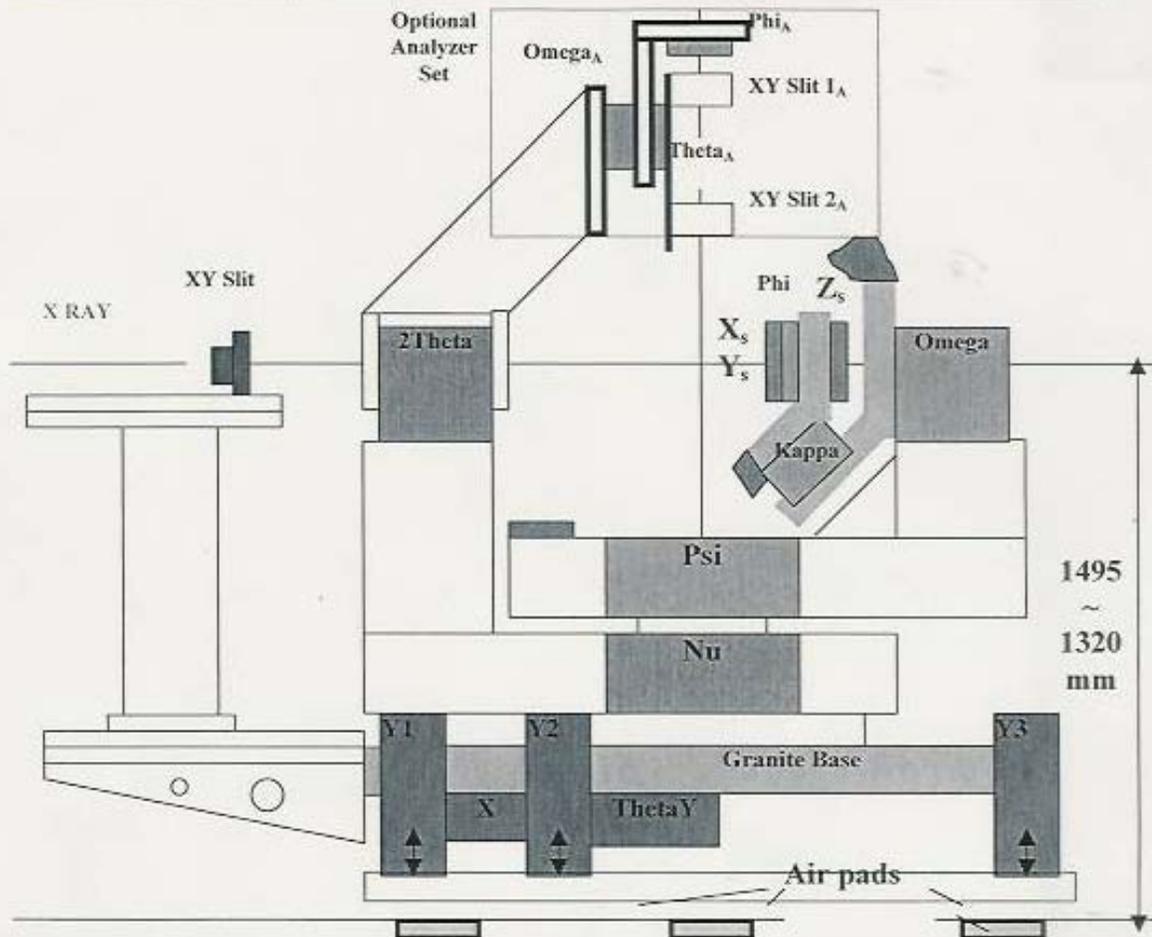
Dr. Eric Dufresne, Advanced Photon Source, Argonne  
National Laboratory, Argonne, IL [dufresne@anl.gov](mailto:dufresne@anl.gov)  
(630) 252-0274.

Specifications:



**Newport**  
MICRO-CONTROLE

**GENERAL PURPOSE KAPPA GONIOMETER  
AT MHATT-CAT (APS) (up to 29 Motorized Axes)**



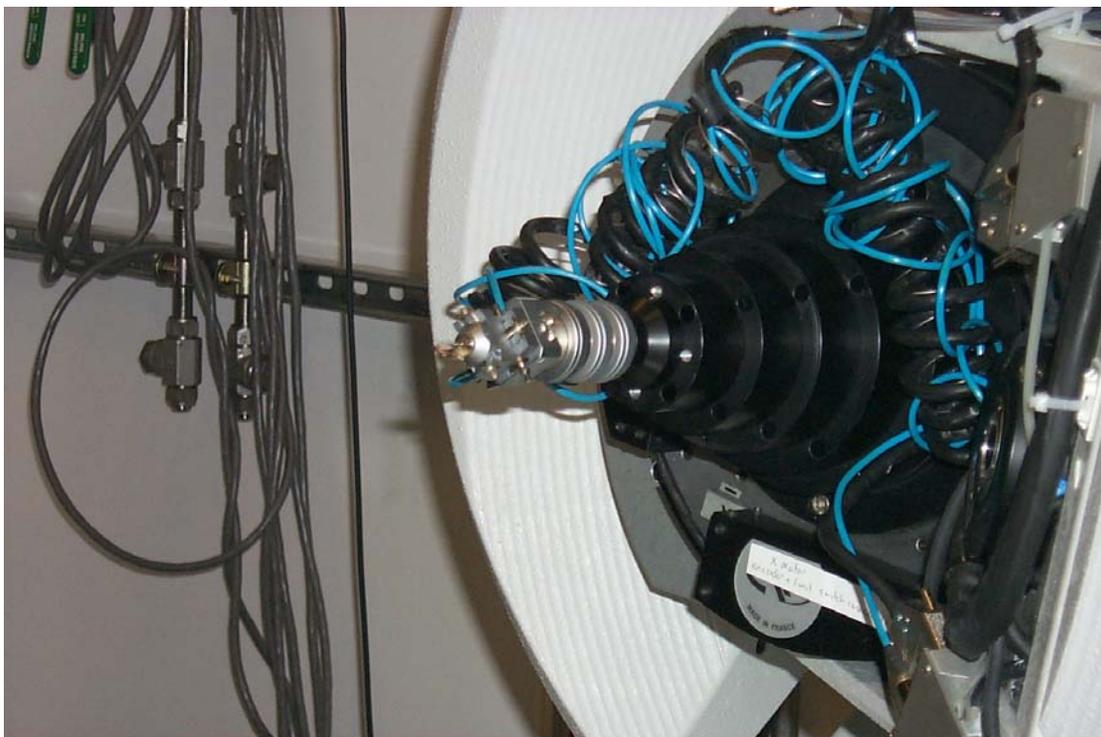
LOAD CAPACITY :	SAMPLE :	up to 20kg
“ “	DETECTOR :	up to 40 kg
SPHERE OF CONFUSION :	SAMPLE :	< 75 μm
	DETECTOR :	< 60 μm
COMPATIBLE INTERFACES :	ACA/UIC	
	A.P.D. CRYOSTAT	
ACCESSORIES :	MOTORIZED SLITS	
	AIR PADS AND CURVE RAIL (~ 40 °)	
	3-CIRCLE ANALYZER & SLITS (OPTIONAL)	

## NEWPORT / MICRO-CONTROLE GENERAL PURPOSE KAPPA GONIOMETER

AXIS	Motor Type	RESOLUTION	SPEED	RANGE
<b>BASE</b>				
Y vertical	3 x Stepper Synchronized	0.0001 mm	12 mm / min	175 mm
X Horiz.	Stepper	0.005 mm	120 mm/min	100 mm
Theta Y	Stepper	0.0002 °	4 ° / min	+/- 1 °
Theta X	3 x Stepper Synchronized	< 0.00005 °	1 ° / min	+/- 1 °
Theta Z	2 x Stepper Synchronized	< 0.00005 °	1 ° / min	+/- 1 °
<b>GONIOMETER SAMPLE SIDE</b>				
PSI	DC Close Loop	0.00025° On axis encoder	240 ° / min	> 300 °
OMEGA	DC Close Loop	0.0001° On axis encoder	480 ° / min	> +/- 180 °
KAPPA	DC Close Loop	0.0001° On axis encoder	480 ° / min	> +/- 180 °
PHI	DC Close Loop	0.0001° On axis encoder	240 ° / min	> +/- 180 °
XS	DC Close Loop	< 20 nm Shaft encoder	4 mm / min	6 mm
YS	DC Close Loop	< 20 nm Shaft encoder	4 mm / min	6 mm
ZS	DC Close Loop	10 nm Shaft encoder	4 mm / min	30 mm
<b>GONIOMETER DETECTOR SIDE</b>				
NU	DC Close Loop	0.00025° On axis encoder	240 ° / min	> 570 °
2THETA	DC Close Loop	0.0001° On axis encoder	480 ° / min	> 200 °
OMEGA <sub>A</sub>	Stepper	0.001° Shaft encoder	120 ° / min	+/- 180 °
THETA <sub>A</sub>	Stepper	0.001° Shaft encoder	120 ° / min	+/- 180 °
PHI <sub>A</sub>	Stepper	0.001° Shaft encoder	120 ° / min	+/- 180 °



Installed in ID-C Sector 7 Advanced Photon Source



X-Y-Z sample stage



Control rack with two Newport MM4005 units.



Close-up of Newport MM4005 Motion Control units.