

Superconducting single and multi-domain YBaCuO melt textured crystals with ability to trap magnetic fields and exhibit strong levitation forces. Available as disks, tiles, hexagons, ring segments and other shapes upon request.

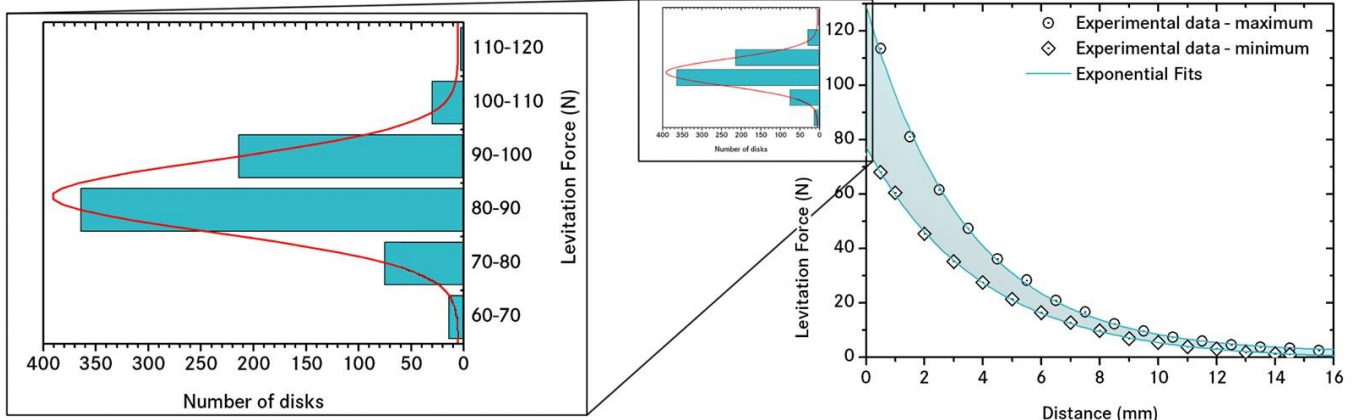


Material	Melt textured YBa ₂ Cu ₃ O _{7-x} with Y ₂ BaCuO ₅ excess + additives
Preparation method	Seeded melt growth
Critical temperature	~ 90 K
Dimension tolerance	Disks: as grown diameter +/- 3%*, height +/- 0.1 mm, other shapes (+ machined disks) +/- 0.1 mm, machined disks – diameter reduced by 5%

Type	Diameter	Height	Levitation Force ^{*)} (77 K)	Max Btr	Typical Btr range
@ 2 mm distance, 1.6 T applied, 77 K					
SINGLE DOMAIN					
CSYL-14 disk	14 mm	6 mm	>20 N	0.5 T	0.4 – 0.6 T
CSYL-21 disk	21 mm	8 mm	>40 N	0.7 T	0.6 – 0.8 T
CSYL-25 disk	25 mm	9 mm	>60 N	0.9 T	0.7 – 0.9 T
CSYL-28 disk	28 mm	10 mm	>70 N	1.05 T	0.8 – 1 T
CSYL-35 disk	35 mm	12 mm	>100 N	1.2 T	1- 1.2 T
CSYL-50 disk	50 mm	15 mm	>200 N	1.35 T	1.1 – 1.3 T
CSYL-56 disk	56 mm	16 mm	>400 N	1.4 T	1.2 – 1.4 T
CSYL-4040 square	40 x 40 x10 mm ³		>240 N	1.2 T	0.9 – 1.2 T
MULTI DOMAIN					
CSYL-40404 square	40 x 40 x12 mm ³		>300 N	1 T	0.8 – 1 T
CSYL-663310 rectangle	66 x 33 x13 mm ³		>300 N	1.1 T	0.8 – 1.1 T
CSYL-803210 rectangle	80 x 32 x13 mm ³		>300 N	1.1 T	0.8 – 1.1 T

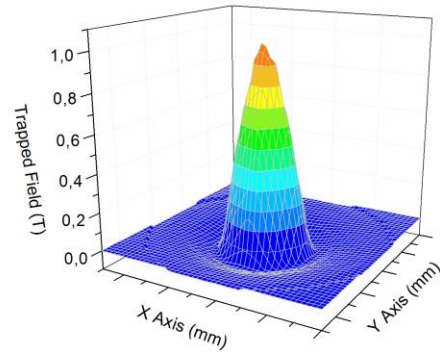
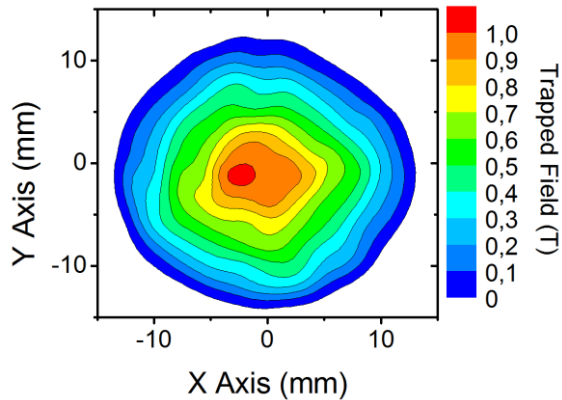
*) Measured using NdFeB permanent magnets of 0.5 – 0.55 T magnetic field at surface. Magnets' diameters and heights: 15/15 mm (CSYL-14 and CSYL-21), 20/20 mm (CSYL-25, CSYL-28), 25/25 mm (CSYL-35), 30/30 mm (CSYL-50), 50 mm cube magnet (CSYL-56, CSYL-663310, CSYL-803210), 45/30 mm (CSYL4040, CSYL-40404). The levitation force is extrapolated to zero distance.

Examples of levitation force at 77 K for CSYL-28 disk measured at 700 samples made, using NdFeB magnet 20/20 mm, 0.5 T. The graph on the right shows dependence of levitation force on distance.

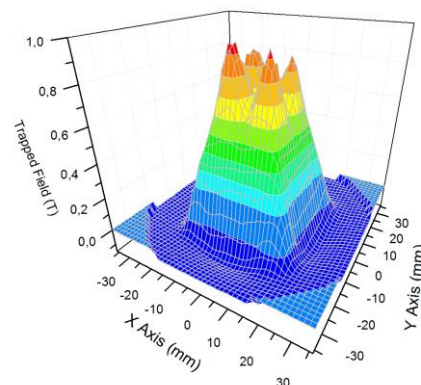
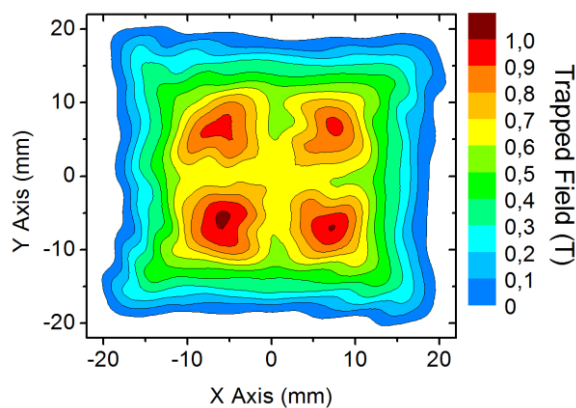


Examples of Trapped Magnetic Field Measurement of Selected Samples

CSYL-28 Disk, 1.6 Tesla applied, max. trapped field at 2 mm distance **1.07 T**



CSYL-40404 4-domain square, 1.6 Tesla applied, max. trapped field at 2 mm distance **1 T**



Example of temperature dependence of trapped magnetic field of a levitation disk. (21 mm diameter)

