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(21) International Application Number: PCT/US96/17805 (22) International Filing Date: 7 November 1996 (07.11.96) (30) Priority Data: 08/554,776 7 November 1995 (07.11.95) US (71) Applicant: THE OHIO STATE UNIVERSITY [US/US]; 1960 Kenny Road, Columbus, OH 43210-1063 (US). (72) Inventor: BHUSHAN, Bharat; 10235 Widdington Close, Powell, OH 43065 (US). (74) Agent: SCOTT, James, C.; Calfee Halter & Griswold L.L.P., Suite 1400, 800 Superior Avenue, Cleveland, OH 44114 (US).		(81) Designated States: DE, JP, KR, SG, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i>
(54) Title: LOW FRICTION NON-GAUSSIAN SURFACE AND METHOD OF DETERMINATION OF OPTIMUM LOW FRICTION SURFACE PARAMETERS (57) Abstract A low friction non-gaussian surface is provided by a method of surface roughness distribution design using probability density functions in contact modeling to determine skewness and kurtosis values which minimize real area of contact with another surface and minimize meniscus force and static and kinetic friction. Magnetic storage media surfaces are described having a range of positive skewness values and high positive kurtosis values, which, the design method of invention indicates, produce minimal real area of contact with a contacting surface, reduction of meniscus forces of a lubricating and/or other liquid layers, and corresponding reduction in static and kinetic friction. The invention is applicable to the design and manufacture of any type of load bearing surface where reduction of static and kinetic friction is desired.		