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(21) International Application Number: PCT/US96/20158 ✓ (22) International Filing Date: 23 December 1996 (23/12.96) ✓ (30) Priority Data: 08/586,529 ✓ 16 January 1996 (16.01.96) ✓ US (71) Applicant: SEAGATE TECHNOLOGY [US/US]; 920 Disc Drive, P.O. Box 66360, Scotts Valley, CA 95067-0360 (US). ✓ (72) Inventors: CHEN, Ga-Lane; 150 Estrella Road, Fremont, CA 94539 (US). CHEN, Qixu; 1630 Tahoe Drive, Milpitas, CA 95035 (US). ✓ (74) Agents: HANKINS, John, A.; Lowe, Price, LeBlanc & Becker, Suite 300, 99 Canal Center Plaza, Alexandria, VA 22314 (US) et al.		(81) Designated States: CN, DE, GB, JP, KR, <u>SG</u> . Published With international search report.												
(54) Title: METHOD OF MANUFACTURING A BICRYSTAL CLUSTER MAGNETIC RECORDING MEDIUM ✓														
(57) Abstract A magnetic recording medium comprising a magnetic alloy layer (33) having a bicrystal cluster microstructure and, hence, reduced medium noise, is formed by depositing a seed layer (31) on a glass or glass-ceramic material substrate (30) oxidizing the seed layer, depositing an underlayer (32) such as chromium, on the oxidized seed layer, whereby the underlayer exhibits a crystallographic orientation (200). A magnetic alloy epitaxially grown on the underlayer having a crystallographic orientation (200) exhibits a bicrystal cluster microstructure. An overcoat layer (34), which can be carbon, and a lubricant layer (35) are deposited over the alloy. <table border="1"><tr><td>LUBRICANT</td><td>35</td></tr><tr><td>CARBON OVERCOAT</td><td>34</td></tr><tr><td>Co ALLOY</td><td>33</td></tr><tr><td>Cr UNDERLAYER</td><td>32</td></tr><tr><td>SEED LAYER</td><td>31</td></tr><tr><td>GLASS CERAMIC SUBSTRATE</td><td>30</td></tr></table>			LUBRICANT	35	CARBON OVERCOAT	34	Co ALLOY	33	Cr UNDERLAYER	32	SEED LAYER	31	GLASS CERAMIC SUBSTRATE	30
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