1037-22-342 **Toshiyuki Kobayashi*** (toshi@math.harvard.edu), Department of Mathematics, Harvard University, 1 Oxford Street, Cambridge, MA 02138.

Propagation theorem of multiplicity-free representations and visible actions on complex manifolds.

In this talk, I plan to present a simple principle that produces various multiplicity-free theorems for both finite and infinite dimensional representations (possibly, with continuous spectrum).

The main idea is to find under what assumption on group actions on holomorphic vector bundles, the multiplicity-free property propagates from fibers to sections. The underlying geometry is explained as "visible actions" on complex manifolds.

References

[1] Procedings of Representation Theory at Saga, Kyushu (K. Mimachi, ed.), 1997, pp. 9–17.
[2] Ann. Math. (2) **147**, 709–729, 1998.
[3] Proc. of ICM 2002, Beijing, vol. 2, 2002, pp. 615–627.
[4] Adv. in Math. Sci. 2 **210** A.M.S. (S. Gindikin, ed.) (2003), 161–169, Special volume in memory of F. Karpelevič.
[5] Acta Appl. Math. **81** (2004), 129–146.
[6] Publ. Res. Inst. Math. Sci. **41** (2005), 497–549, Special issue commemorating the 40th anniversary of RIMS.
[7] J. Math. Soc. Japan, **59**, 669–691, 2007.
[8] Progr. Math., vol. 255, pp. 45–109, Birkhäuser, 2007.
[9] math.RT/0607004.
[10] Transformation Groups **12**, 671–694, 2007. (Received February 05, 2008)