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Ela Celikbas* (ela.celikbas@math.wvu.edu), **Olgur Celikbas**, **Shiro Goto** and **Naoki Taniguchi**. *Generalized Gorenstein Arf Rings*. Preliminary report.

In 1971, Lipman proved that, if (R, \mathfrak{m}) is a complete, saturated, one-dimensional commutative Noetherian local domain with an algebraically closed field of characteristic zero, then R has minimal multiplicity, i.e., the embedding dimension of R equals the multiplicity of R . In his proof, Lipman used the fact that such a ring R is an Arf ring, i.e., R satisfies a condition introduced and studied by Arf in 1949 pertaining to a certain classification of curve singularities. The defining condition of an Arf ring is easy to state: if R is as above, then R is Arf provided, whenever $0 \neq x \in \mathfrak{m}$ and $y/x, z/x \in \text{Frac}(R)$ are integral over R , one has that $yz/x \in R$.

Goto and Kumashiro have recently introduced the notion of a generalized Gorenstein ring which is one of the generalizations of the Gorenstein property. A general Gorenstein ring is defined by a certain embedding of the ring into its canonical module. The class of generalized Gorenstein rings is a new class, strictly contained between the class of Cohen-Macaulay rings and that of Gorenstein rings.

In this talk we give a characterization of local rings that are both generalized Gorenstein and Arf. This is a joint work with Olgur Celikbas, Shiro Goto, and Naoki Taniguchi. (Received February 19, 2018)