1053-14-296   **Michael Temkin*** (`temkin@math.ias.edu`). *Inseparable Local Uniformization.*

It is known since the works of Zariski in early 40ies that desingularization of varieties along valuations (also called local uniformization of valuations) can be considered as the local part of the desingularization problem. It is still an open problem if local uniformization exists in positive characteristic and dimension larger than three, but local uniformization is always possible after a purely inseparable alteration. In this lecture, I will explain some ideas about proving the latter result and establish a link to Berkovich analytic spaces and the theory of analytic valued fields. (Received September 07, 2009)