Hanli Tang* (hltang@bnu.edu.cn), Beijing, Beijing 100875, Peoples Rep of China. Sharp singular Moser-Trudinger inequalities in Lorentz-Sobolev space.

In this report, we establish best constants for several types of singular Moser-Trudinger inequalities in Lorentz-Sobolev spaces. These include sharp constants for singular Moser-Trudinger inequality on both bounded and unbounded domains with the Lorentz norm restrictions. And we also set up best constants for subcritical and singular subcritical Moser-Trudinger inequalities in Lorentz-Sobolev space. This is a joint work with Professor Guozhen Lu. (Received February 22, 2015)