

We accepted any solution, that have made a rough estimates, of the collapse. One of the possible way is to notice that in  $d$ -dimensions we have the following relation between the Schwarzschild solution and the Mass of the black hole as

$$M \sim r_s^{d-3}, \quad (1)$$

where we have set  $\hbar = G = c = 1$ . The collapse happens if at given radius the Schwarzschild radius is larger than the radius. Since labyrinth is uniform we can assume that we can estimate

$$M \sim \rho_{\text{lab}} r_s^{d-2} = r_s^{d-3}, \quad \rho_{\text{lab}} \sim \frac{1}{r_s}, \quad (2)$$

the minimal black hole radius is  $r_s \sim L$  and the  $\rho_{\text{lab}} \sim \frac{NM}{L^{d-1}}$ . We arrive at

$$\frac{MN}{L^{d-1}} \sim \frac{1}{L}, \quad M \sim \frac{L^{d-2}}{N} \quad (3)$$