1046-52-1143 Gábor Fejes Tóth* (gfejes@renyi.hu), Rényi Institute, Reáltanoda utca 13-15, Budapest, H-1053, Hungary. Shortest path among circles. Preliminary report.
Given a packing of open unit circles, any two points lying outside the circles at distance $d$ from one another can be connected by a path evading the circles and having length at most

$$
\frac{2 \pi}{\sqrt{27}}(d-2)+\pi
$$

This bound cannot be improved for values of the form $2(k \sqrt{3}+1)$. Can a packing of incongruent circles with radii at most 1 force us to a greater detour? The answer is yes, but concerning this problem we have to be satisfied with weaker upper and lower bounds for the length of the shortest path. (Received September 14, 2008)

