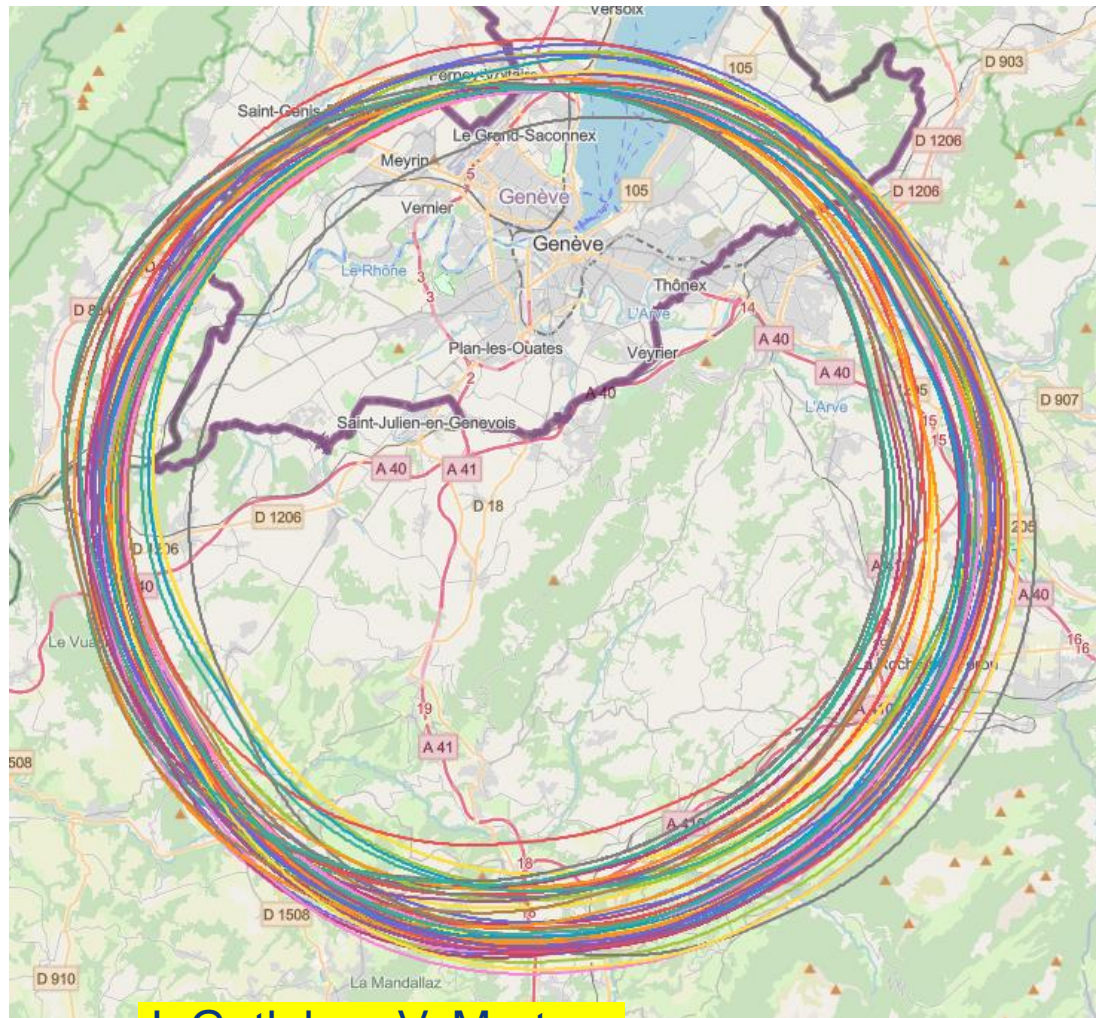


# collider placement optimisation → 2 layouts



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CDR baseline:  $C=97.756$  km

total straight sections length:  $S=2 \times 2.8 + 6 \times 1.4 = 14$  km

total arc length:  $A=C-S=83.756$  km,  $A/(2\pi)=13.330$  km

dipole bending radius  $\rho = 10.760$  km

more realistic candidate layouts:

PB17\_08:  $C=96.094$  km

total straight sections length:  $S=2 \times 3.25 + 6 \times 1.4 = 14.88$  km

total arc length:  $A=C-S=81.214$  km,  $A/(2\pi)=12.926$  km

dipole bending radius  $\rho \sim 10.434$  km (3% reduction w.r.t. CDR)

PB19\_03:  $C=91.324$  km

total straight sections length:  $S=2 \times 2.69 + 6 \times 1.36 = 13.54$  km

total arc length:  $A=C-S=77.784$  km,  $A/(2\pi)=12.380$  km

dipole bending radius  $\rho \sim 9.993$  km (7% reduction w.r.t. CDR)

Consequences for our parameters?  $V_{RF} \propto U_0 \propto 1/\rho$ ,  $L \propto \rho$  ?