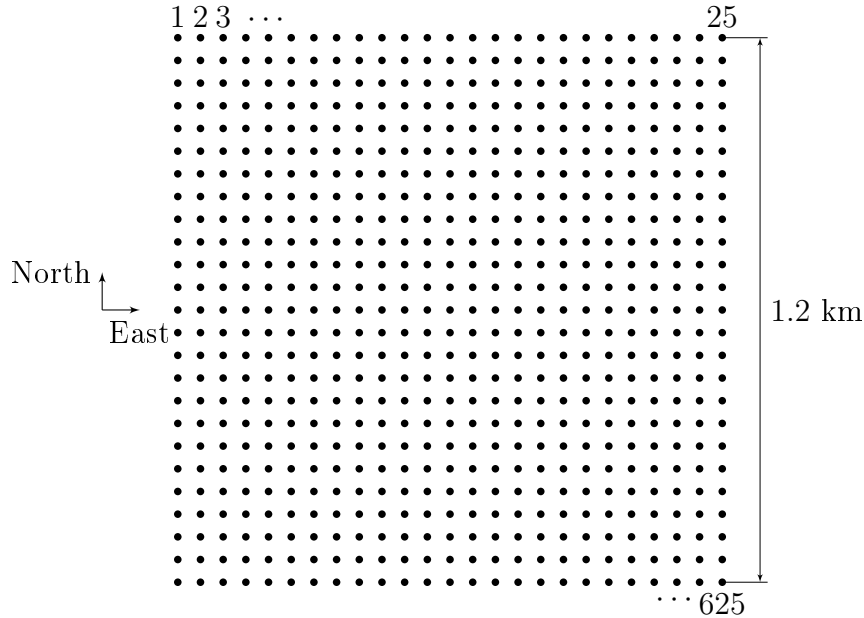
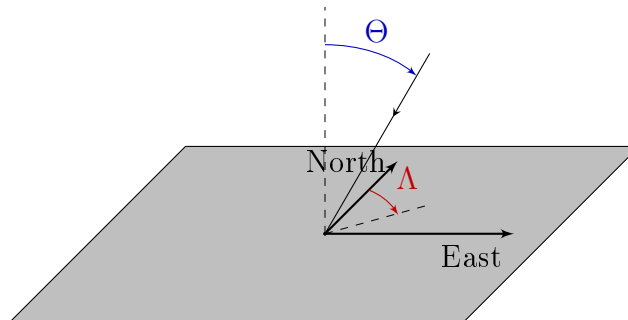


T3. Direction of shower

In this problem we analyze the simplified simulation of the ground-based detector array when an air shower hits it. The array consists of a grid of 25×25 detectors forming a square of $1.2 \text{ km} \times 1.2 \text{ km}$ oriented with respect to the cardinal directions. The detectors are numbered according to the figure. The distance between neighboring detectors is 50 m.



The table (.xlsx table in *Extras* on pho.rs) of the detectors' readings is provided as the experimental data. Readings correspond to the total energy of the particles incident on the detector over a time interval $\Delta t = 10 \text{ ns}$ with a step of Δt . The front of the air shower is flat and thin in the direction of propagation, and you can assume that all particles hitting the array move with approximately speed of light $c = 3.00 \cdot 10^8 \text{ m/s}$. The air shower comes from the point in the sky characterized by the azimuthal angle Λ and the zenith angle Θ .



A1	What is the number n of the detector placed closest to the center of the shower?
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A2	Determine the values of Λ and Θ
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