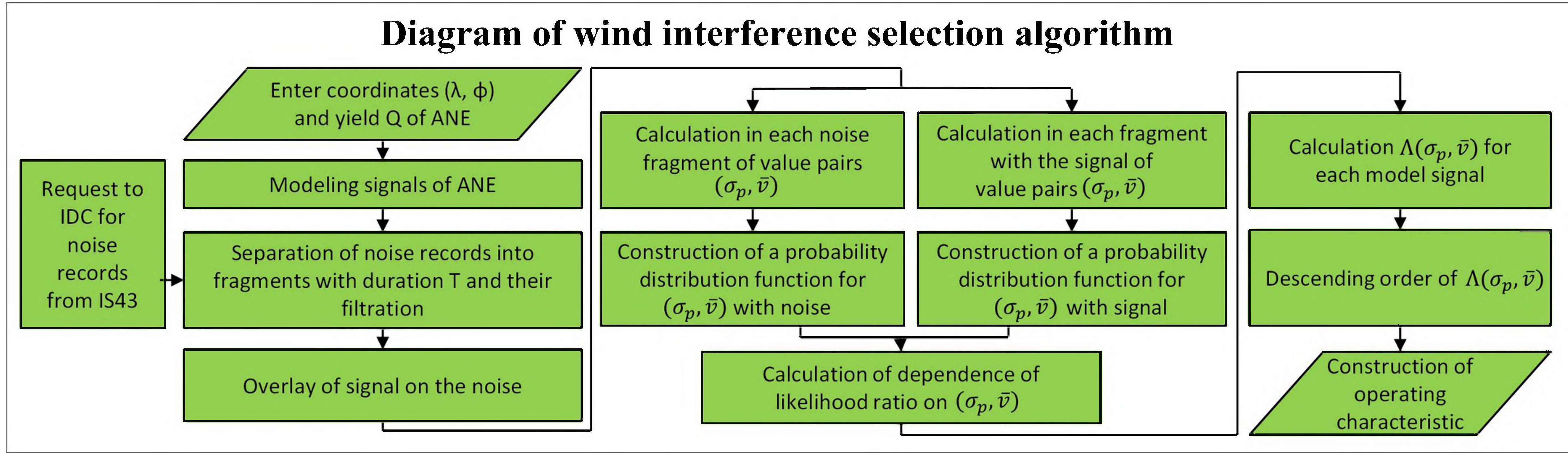




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### Initial data

Years	2016		2017		2018	
Months	1	3	5	8	10	12
Dates of month	15					
Hours	06			18		
Duration of each file	60 min					
Number of files	36					
Data volume	100 Mb					

### Symbols

- $H, \bar{H}$  – hypotheses about availability or absence of an infrasound source;
- $p(t), v(t)$  – record from channels of pressure pulsations and wind speed at IMS IS;
- $\bar{p}$  – mean value of pressure pulsations at interval T;
- T – duration of ANE signal;
- $(\sigma_p, \bar{v})_i$  – root mean square deviation of pressure pulsations and mean wind speed at IMS IS in ith measurement;
- N – number of ANE model signals;
- P(A) – probability of event A;
- P(A|B) – probability of event A provided that event B has occurred;
- $\Lambda_i$  – likelihood ratio for ith model symbol;
- $P_{det}, P_{fa}$  – probabilities of false alarm detection/

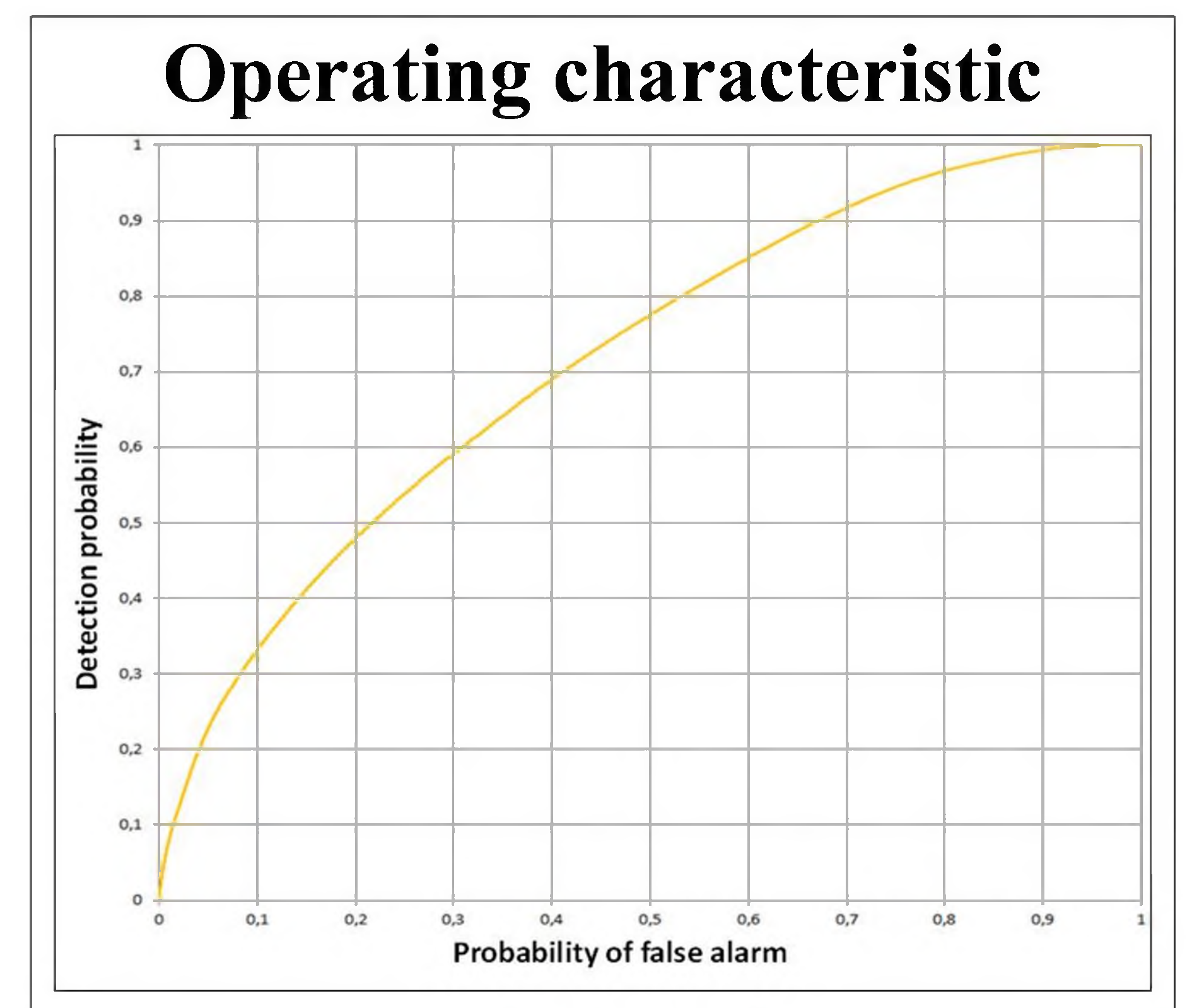
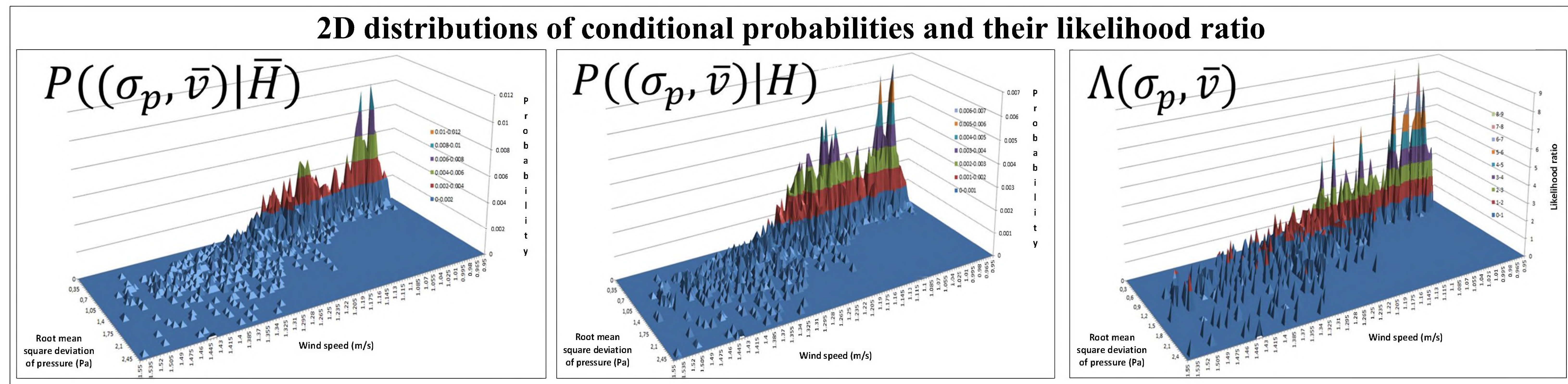
$$\sigma_p = \sqrt{\frac{1}{T} \int_0^T (p(t) - \bar{p})^2 dt}$$

$$\bar{v} = \frac{1}{T} \int_0^T |v(t)| dt$$

### Likelihood ratio and operating characteristic

$$\Lambda_i = \frac{P((\sigma_p, \bar{v})_i | H)}{P((\sigma_p, \bar{v})_i | \bar{H})}$$

$$P_{fa} = \frac{1}{N} \sum_{i=1}^{N \cdot P_{det}} \frac{1}{\Lambda_i}$$



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