

Benchmarks Description File for the Capacitated Vehicle Routing Problem with Evidential Demands

The file names in this depot are of the form $MF_{l_Ann-mm}.vrp$ for the CVRPED instances, and $MF_{l^+_Ann-mm}.vrp$ for the CVRPED⁺ instances:

- l stands for the instance identification (id) number,
- n represents the total number of customers including the depot, and
- m represents the total number of vehicles.

Description of each file :

- Line 1 holds the original Augerat file name for the CVRP instances [1].
- Line 3 holds the capacity limit of each vehicle.
- From line 5 until line $(4 + n)$, node coordinates are shown. They allow to calculate the euclidean distance between nodes.
- From line $(6 + n)$ until line $(5 + 2n)$, the possible interval demands of nodes are shown, along with the associated mass values (probabilities) to each interval demand.

Example 1. *For instance suppose line $(10 + n)$ is*

2 a b c d VALUES 0.8 0.2

This means that uncertainty on the demand of client 2 (since client 1 in these files is the depot), is represented by mass function m_2 defined by $m_2(\llbracket a, b \rrbracket) = 0.8$ and $m_2(\llbracket c, d \rrbracket) = 0.2$.

References

- [1] Vehicle Routing Data sets. <http://www.coin-or.org/SYMPHONY/branchandcut/VRP/data/index.htm>. Accessed: 2016-03-20.