887 - ELECTRIC VEHICLE CAR PARK CHARGING SIMULTANEITY AND GRID CONNECTION POWER REQUIREMENT ANALYSIS

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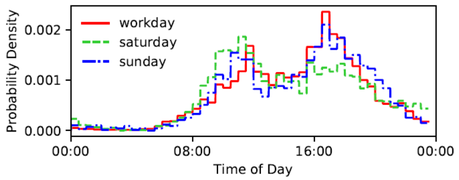


Fig. 1. Home arrival time distribution for rural areas

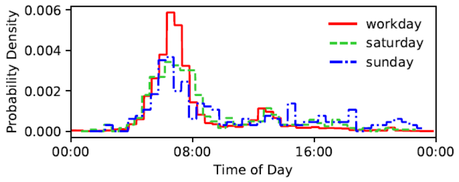


Fig. 2. Work arrival time distribution for rural areas

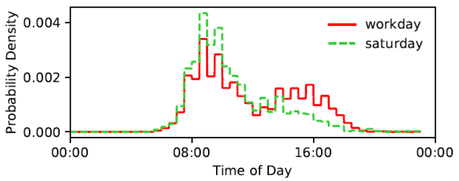


Fig. 3. Shop arrival time distribution for rural areas

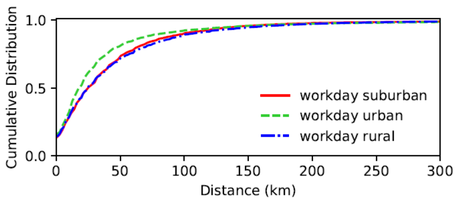
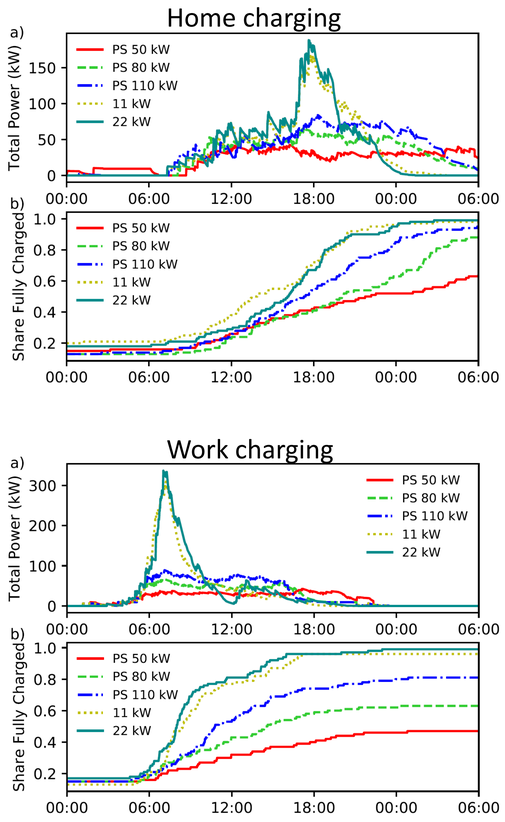


Fig. 4 CDF for the workday driving distance in different areas

- Mobility Analysis for Austria
- Generation of an EV fleet simulation model
- Use of 2020 top 10 EV registrations
- Simulation of home, work and shop charging scenarios
- Comparison of Peak Shaving (PS) with uncontrolled charging
- Analysis of the Charging Simultaneity Factor (CSF)
- Analysis of the maximum peaks for capacity planning



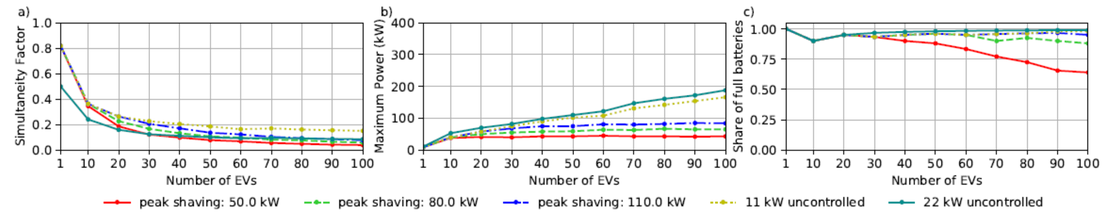


Fig. 7 Home charging scenarios in a rural area over a winter season with different EV fleet sizes. a) CSF, b) Maximum car park charging power, c) Share of full batteries next morning at 6 am

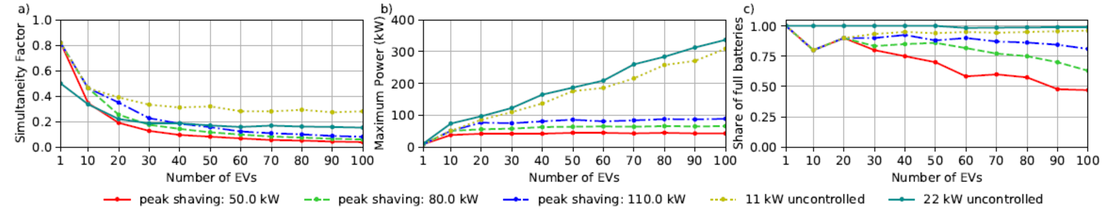


Fig. 8 Work charging scenarios in a rural area over a winter season with different EV fleet sizes. a) CSF, b) Maximum car park charging power, c) Share of full batteries after all charging processes have been stopped

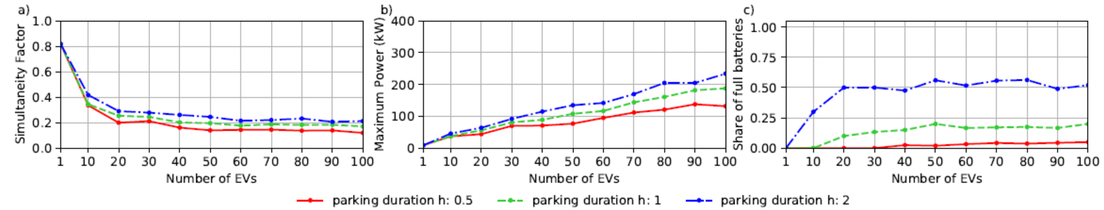


Fig. 9 Shop charging scenarios (uncontrolled charging with 11 kW) in a rural area over a winter season with different EV fleet sizes. a) CSF, b) Maximum car park charging power, c) Share of full batteries after all charging processes have been stopped