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## **Current Status and Science in J-PARC MLF**

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Materials and Life Science Experimental Facility (MLF) at J-PARC (Japan Proton Accelerator Research Complex) is an accelerator-based neutron and muon experimental facility [1]. The facility is now operating very stably at a power of 540 kW. In the neutron facility there are 23 beam holes and 21 instruments are under operation for user program. In the muon facility we have 4 beam lines and now 2 beam lines are used for user program. Operation days in a year is about 180 days and more than 1100 users are performing experiments in our facilities. Using the neutron and muon facilities we together with worldwide users are intensively investigating molecular/atomic level structure and dynamics for various kinds of materials including Li ion battery, fuel cells, soft materials including polymers, biological materials, magnetic and strongly correlated electron systems, engineering materials, heritage materials.

In the presentation we will introduce the current status of our facility and our recent excellent outcomes, including battery research, high pressure science, and soft and hard material science. References

[1] https://j-parc.jp/c/en/index.html

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