Seeing UGM Rocket in Komurindo 2011

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Two UGM rockets, *Gama-Sat 1* and *Gama-Sat 2*, managed to launch in the test launch of *Indonesian Payload Rocket Competition* (Komurindo) 2011, Sunday (26/6), in Pandansimo Beach, Bantul. In the test launch, the two UGM rocket teams competed with 19 other rocket teams from several universities in Indonesia.

Gama-Sat 1 team consists of three students from Department of Electrical Engineering and Mechanical Engineering UGM, namely Luis Rizki Ramlan, Fahmi Bashori, and Hari Magfiroh, with the supervisor Eka Firmansyah, ST, M.Eng.Ph.D. Meanwhile, Gama-Sat 2 team consists of three students from Department of Electrical Engineering and Electronics and Instruments, Ufi Desi Fatmawati, Kristian Antonius and Ferdian Azmi, with supervisor Drs. Agus Harjoko, M.Sc., Ph.D.

As reported previously, there are 23 teams which managed to pass functional test on Saturday (25/6), in Pandansimo Beach Hall, Bantul. However, the rocket launch test this time was followed only by 21 teams. Two other teams from ITS and UNJ withdrew because their radio frequency (rs) was burnt during the integration process. "We are relieved that the two rockets can glide though Gama-Sat 2 is not able to do separation between the rocket payload with motor. But, we are still nervous because we don’t know the result yet whether it can record images and data or not," Team Manager of Gama-Sat 1 and Gama-Sat 2, Fitri Rahmaningrum, said after the rocket launch.

In the test launch, each participant was given the opportunity to launch the rocket. How it works is similar to the process of releasing rocket spacecraft. Meanwhile in space, rockets perform separation, payload, and motor separation. Both fly in the sky using a parachute. Meanwhile in space, the payload is given a mission to retrieve data and images. "In the first 12 seconds accelerometer data is taking place.

Further, during the 12th-72nd seconds image taking is done. The expectation is at every instruction it can retrieve data and images with good quality," she said.

Data and images are obtained from the camera shots in which there is data transmission. The results are sent to the earth which is then received through the computer. "The data that is subsequently processed into images/graphics will be presented tomorrow," she explained.

It is not easy for the two UGM rocket teams in this prestigious competition. They have to pass the proposal selection phase and video progress before going to the next stage. Afterwards, the UGM teams competed with 38 teams from 35 universities throughout Indonesia.

Fitri admitted the difficulty because they have to do research from the beginning. This is because in each rocket competition the theme is different. "We have to learn from scratch because the theme in the competition is always different every year," Fitri said.

Fitri added that preparation of payload making has been done since late January. Functional test has also been done twice, bringing them the desired results. The rocket payload made by UGM team spent approximately 10 million rupiah, with a diameter of 100 mm, height 200 mm, and maximum weight of 1,000 grams. The motor used is specification of big current and small dimension. "Our payload could not return. It landed in the sea and swept away. Ten million rupiah were lost, but it doesn’t matter, hopefully, the result will be good and we can win," she concluded.

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