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(57) Abstract :
The present invention related to combined power generation and cooling system with a method of using waste heat from multi fuel research engine (MFRE) as hot source. According to the main aspect of the invention, cogeneration system comprises of organic Rankine cycle (ORC) as power generation cycle and ejector refrigeration system (ERS) for cooling. The cogeneration system comprises of waste heat recovery, plurality of heat exchangers, turbine and generator, plurality of pumps, a mixing chamber, ejector, evaporator, valve, tank wherein, the heating arrangement used in the combined power and cooling system is multifuel research engine waste. The ORC utilizes heat recovery from the MFRE efficiently with the incorporation of multiple heat exchangers. The ORC turbine exhaust is used to drive ERC thereby providing refrigeration effect, hence with single input energy useful outputs has been resulted. As alternative to the conventional fossil fuel and renewable energy sources, the MFRE will provide low grade heat energy to the ORC and ERC.

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