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Tuning electric and magnetic responses with structure evolution in a metamaterial XIANG XIONG, MU WANG, RUWEN PENG, Nanjing University — We demonstrated that in an assembly of double-layered metallic U-shaped resonators, magnetic and electric responses are realized respectively. The two different types of responses are realized at higher and lower frequency. When the U-shaped structure resonators evolve into H-shaped structure gradually, the electric and magnetic frequencies move forward to each other. In this case, when electric response and magnetic response are overlapped in frequency, negative refractive index can be realized.

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