

MAGNETOELECTRIC DEVICE, METHOD FOR FORMING A
MAGNETOELECTRIC DEVICE, AND WRITING METHOD FOR A
MAGNETOELECTRIC DEVICE

5 ABSTRACT

According to embodiments of the present invention, a magnetoelectric device is provided. The magnetoelectric device includes a reference magnetic layer structure having a fixed magnetization orientation, and a synthetic antiferromagnetic layer structure including a
10 free magnetic layer structure and a coupling magnetic layer structure antiferromagnetically coupled to each other, each of the free magnetic layer structure and the coupling magnetic layer structure having a magnetization orientation that is variable, wherein the reference magnetic layer structure and the synthetic antiferromagnetic layer structure are arranged one over the other. According to further embodiments of the
15 present invention, a method for forming a magnetoelectric device and a writing method for a magnetoelectric device are also provided.

Figure 2A