

The second point to observe is that, besides the left action on  $\mathcal{E}(G/K)$  derived from left translations by  $G$ , there is a natural action of  $\mathcal{E}'(G)$  on  $\mathcal{E}(G/K)$  by convolution on the *right*. An elementary argument shows this action identifies  $\mathcal{E}'(G)$  with the algebra of all intertwining operators for the left regular representation of  $G$  on  $\mathcal{E}(G/K)$ . Properties (iii) and (iv) result from this right action. But the right action and its intertwining property do not seem to be mentioned (except in the special case  $G$  compact,  $K = \{1\}$ , in §2 of Chapter 5, where it is conflated with regularity theorems (Theorems 2.3, 2.9, Lemma 2.4)). Even in the case of a compact symmetric space, the spectral projection property of the spherical function is not brought out; instead the Fourier expansion is effected as for an abstract representation, by convolving with characters (Theorem 4.3, formula (10), p. 538). This is despite the fact that in the example of spherical harmonics, in the Introduction, it is made quite clear (Proposition 3.2, p. 20, and Lemma 3.5, p. 22).

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Over the past twenty years, it has become abundantly clear that simple dynamical systems may behave in a very chaotic fashion. By now it is well known that simple (even quadratic) functions of a real variable may yield essentially random behavior when iterated, and that simple nonlinear ordinary differential equations in three dimensions (even with only one