Info

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Right shift operator on $l^2(\mathbb{Z})$

Definition.

$$R : l^2(\mathbb{Z}) \to l^2(\mathbb{Z})$$
$$(\dots, a_{-1}, a_0, a_1, a_2, \dots) \mapsto (\dots, a_{-2}, a_{-1}, a_0, a_1, \dots)$$

on standard basis

$$e_i \mapsto e_{i-1}$$

Fourier-equivalent to identity multiplier on $L^2(S^1)$

$$(a_i) \mapsto f(z) := \sum_{k \in \mathbb{Z}} a_k z^k$$

Thus

$$R(a_k) \mapsto \sum_{k \in \mathbb{Z}} a_{k-1} z^k = z f(z)$$

spectral decomposition

> **Proposition:**
>
> Definition.
>
> $$R : l^2(\mathbb{Z}) \to l^2(\mathbb{Z})$$
> $$(\dots, a_{-1}, a_0, a_1, a_2, \dots) \mapsto (\dots, a_{-2}, a_{-1}, a_0, a_1, \dots)$$
>
> has *Lebesgue spectrum of multiplicity 1*

Current note has 0 direct children and 0 total descendants.

- stretchy
  - shift
    - Right shift operator

And it has 2 siblings.

- stretchy
  - shift
    - Left and right shift on $l^2(\mathbb{N})$
    - Right shift operator