1 | source source

1.1 | axler5.14

2 |
$$T\big|_U$$
 and T/U def

Suppose $T \in \mathcal{L}(V)$ and U is a subspace of V invariant under T.

• The restriction operator $T\big|_U \in \mathcal{L}(U)$ is defined by

$$T|_{U}(u) = Tu$$

for $u \in U$.

• The *quotient operator* $T/U \in \mathcal{L}(V/U)$ is defined by

$$(T/U)(v+U) = Tv + U$$

for $v \in V$.

2.1 | motivation

By using these two operators, we can study a map T on a big space V by looking at what it does to vectors in U and not in U, with $T\big|_U$ and T/U respectively.

However, Axler gives an example of how this is not always enough info (see Axler5.15).

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