

Possibly nonunital representation

`MathlibAnnex.Analysis.CStarAlgebra.NonUnitalCStarRepresentation`

Names nonunital complex star-algebra homomorphisms into bounded operators as the representation type.

Statement

Let A be a complex C^* -algebra, not assumed unital, and H a complex Hilbert space. A representation of A on H is a complex-linear nonunital star-algebra homomorphism into the bounded complex-linear operators on H . It preserves addition, multiplication, complex scalar multiplication and involution; neither preservation of a unit nor faithfulness is built in.

Definition

`NonUnitalCStarRepresentation A H = A →*na[ $\mathbb{C}$ ] (H → $L[\mathbb{C}]$  H).`

Assumptions

Let A be a complex C^* -algebra, not assumed unital, and H a complex Hilbert space.

Conclusion

A representation of A on H is a complex-linear nonunital star-algebra homomorphism into the bounded complex-linear operators on H . It preserves addition, multiplication, complex scalar multiplication and involution; neither preservation of a unit nor faithfulness is built in.

Main citations

Lean source signature (exact)

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abbrev NonUnitalCStarRepresentation (A : Type u)
  [NonUnitalCStarAlgebra A] (H : Type v)
  [NormedAddCommGroup H] [InnerProductSpace  $\mathbb{C}$  H] [CompleteSpace H]
```

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Exact Card identity

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