

# User Guide for `ffr-ElectronicStructure.jl`

Fadjar Fathurrahman

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## 1 Introduction

`ffr-ElectronicStructure.jl` is a collection of programs<sup>1</sup> for learning electronic structure calculations.

## 2 Short introduction to Julia

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```
type CircleT
    radius::Float64
end
```

II

```
type CircleT
    radius::Float64
end
```

## 3 Formulae

Plane wave basis  $b_\alpha(\mathbf{r})$ :

$$b_\alpha(\mathbf{r}) = \frac{1}{\sqrt{\Omega}} e^{\mathbf{G}_\alpha \cdot \mathbf{r}} \quad (1)$$

Structure factor:

$$S_I(\mathbf{G}) = \sum_{\mathbf{G}} e^{-\mathbf{G} \cdot \mathbf{X}_I} \quad (2)$$

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<sup>1</sup>or scripts