

# JRKPF

**Jurnal Riset dan Kajian Pendidikan Fisika (JRKPF)** is a research journal in the field of physics and physics education. JRKPF is committed to presenting research journals with good editing quality and the latest research topics. JRKPF is a forum for researchers, teachers, lecturers, and students to publish their research work. JRKPF was first published in 2014 and periodically twice a year in April and October.

## Editor in Chief

**Ishafit**

Scopus ID: 57216317398  
Universitas Ahmad Dahlan  
Indonesia

## Managing Editor

**Toni Kus Indratno**

Scopus ID: 57215693227  
Universitas Ahmad Dahlan  
Indonesia

## Editorial Board

### **Nurul Syafiqah Yap Abdullah**

Scopus ID: 57194165492  
Universiti Pendidikan Sultan Idris (UPSI)  
Malaysia

### **Rohan Dattaram Lahane**

Scopus ID: 57192304490  
Nehru Planetarium  
India

### **Arif Rahman Aththibby**

Scopus ID: 57222342956  
Universitas Muhammadiyah Metro  
Indonesia

### **Khairil Anwar**

Scous ID: 57204568378  
Universitas Muhammadiyah Mataram  
Indonesia

### **Mirza Nur Hidayat**

Scopus ID: 56966458300  
Universitas Muhammadiyah Prof. DR. HAMKA  
Indonesia

### **Jerry T. Barretto**

Scopus ID: 57655632400  
West Island School  
Hong Kong

### **Rachmad Resmiyanto**

Universitas Islam Negeri Sunan Kalijaga  
Indonesia

### **Yudhiakto Pramudya**

Scopus ID: 57192652457  
Universitas Ahmad Dahlan  
Indonesia

### **Moh. Irma Sukarelawan**

Scopus ID: 57222103626  
Universitas Ahmad Dahlan  
Indonesia

### **Eko Nursulistiyo**

Scopus ID: 57201665029  
Universitas Ahmad Dahlan  
Indonesia

## Publisher Address:

### **Universitas Ahmad Dahlan**

Kampus 4 Universitas Ahmad Dahlan

Jalan Ahmad Yani, Tamanan, Banguntapan, Bantul, D.I. Yogyakarta - 55166

Telp. +62 274 564604, ext. 43514; Fax. +62 274 564604

Email: jrkpf@pfis.uad.ac.id

# JRKPF

Jurnal Riset dan Kajian Pendidikan Fisika

Vol. 12 No. 1, April 2025

---

**Analysis of the multirepresentation ability of physics education students in problem-solving related to physics**

*Umu Salumita Sari, Himawan Putranta*

**Investigating the challenges of first-year education students in physics practicum**

*Carlos Falentino, Eryawan Presma Yulianrifat, Yuni Fatma Safitri, Alpherio Tanlianto, Atin Nuryadin, Agus Riyadi*

**Implementing the ICARE model with AR-based e-modules on global warming to enhance students' self-efficacy**

*Najla Azmiyatunisa, Lina Aviyanti, Duden Saepuzaman, Heni Rusnayati*

**Aiken's V analysis and Rasch modeling to determine the quality of physics creative thinking test instruments**

*Kurniawan, Parlindungan Sinaga, Duden Saepuzaman*

**Systematic literature review: analysis of problem-solving skill trends in physics education (2014-2024)**

*Melani Dyah Ayu Sukma, Yutisa Is Dhiarni, Rani Kusniati, Yusman Wiyatmo, Heru Kuswanto*

**The use of diagnostic assessment in high school physics learning: a systematic literature review from 2020-2024**

*Serli Ahzari, Nisa Cantika Fitri, Festiyed, Emiliannur*

---

Published by  
Universitas Ahmad Dahlan

JRKPF	Vol. 12	No. 1	pp. 1 – 57	Yogyakarta, April 2025	E-ISSN: 2355-620X
-------	---------	-------	------------	---------------------------	-------------------

## Table of Contents

<b>Analysis of the multirepresentation ability of physics education students in problems-solving related to physics</b> <i>Umu Salumita Sari, Himawan Putranta</i>	1-9
<b>Investigating the challenges of first-year education students in physics practicum</b> <i>Carlos Falentino, Eryawan Presma Yulianrifat, Yuni Fatma Safitri, Alphero Tanlianto, Atin Nuryadin, Agus Riyadi</i>	10-19
<b>Implementing the ICARE model with AR-based e-modules on global warming to enhance students' self-efficacy</b> <i>Najla Azmiyatunisa, Lina Aviyanti, Duden Saepuzaman, Heni Rusnayati</i>	20-31
<b>Aiken's V analysis and Rasch modeling to determine the quality of physics creative thinking test instruments</b> <i>Kurniawan, Parlindungan Sinaga, Duden Saepuzaman</i>	32-40
<b>Systematic literature review: analysis of problem-solving skill trends in physics education (2014-2024)</b> <i>Melani Dyah Ayu Sukma, Yutisa Is Dhiarni, Rani Kusniati, Yusman Wiyatmo, Heru Kuswanto</i>	41-49
<b>The use of diagnostic assessment in high school physics learning: a systematic literature review from 2020-2024</b> <i>Serli Ahzari, Nisa Cantika Fitri, Festiyed, Emiliannur</i>	50-57