Pemanfaatan DroidCamp Terintegrasi Gmeet untuk Pembelajaran Daring Fisika dan Matematika

JOKO PURWANTO, M.SC

Pembelajaran Fisika dan Matematika di Masa Pendemi Covid-19

Metode mengajar guru fisika dan matematika selama massa pandemi Covid-19

1. Guru mengajar dengan cara **tatap muka virtual** melalui *video conference* menggunakan **Google Meet, Zoom, atau skype**, *teleconference.*
2. Guru mengajar dengan cara **diskusi dalam group media sosial** atau aplikasi pesan semisal Whatsapp group (WAG).
3. Guru mengajar **menggunakan *Learning Management System* (LMS),** yaitu sistem pengelolaan pembelajaran terintegrasi secara daring melalui aplikasi. Contoh guru membuat kelas maya **rumah belajar, google classroom, ruang guru, zenius, edmodo, moodle, siajar LMS seamolec**, dan lain sebagainya.

Pembelajaran Fisika dan Matematika Dalam Jaringan (DARING)

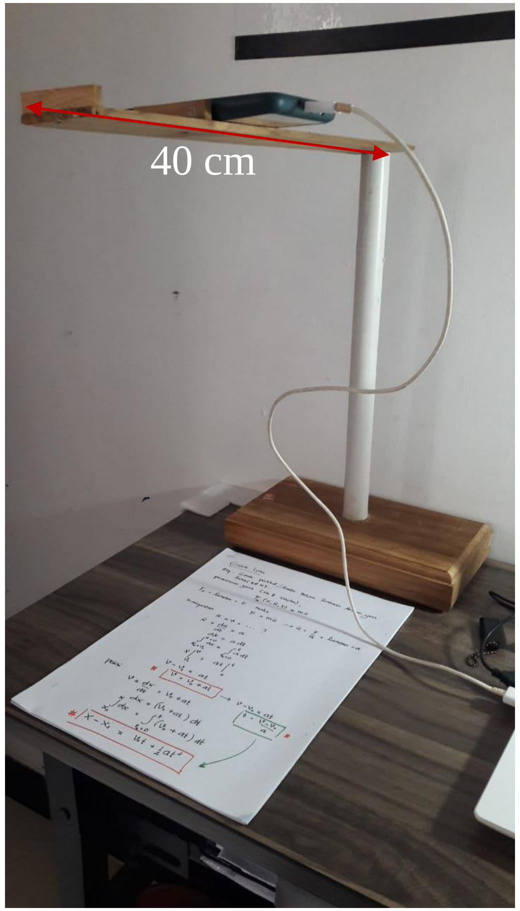
- ✓ Sebagai guru fisika dan matematika, saat mengajar daring baik dari rumah atau sekolah, salah satu **senjata utamanya adalah webcam**. Pasalnya, webcam digunakan saat pembelajaran daring menggunakan Zoom atau Google Meet.
- ✓ Mengajar **fisika dan matematika kok tanpa corat-coret**, tanpa perhitungan langsung, tanpa penurunan persamaan, tanpa menggambar grafik atau ilustrasi yang mendukung **ibarat sayur tanpa garam**, hambar.
- ✓ **Guru melakukan corat-coret, penurunan persamaan secara langsung, menggambar grafik atau ilustrasi yang mendukung materi** kemudian terjadi **interaksi antara guru-siswa** (baik diskusi atau pun tanya jawab) **sangat penting dalam pembelajaran fisika dan matematika untuk memberikan 'ruh' atau 'rasa' pada proses pembelajaran yang berlangsung serta untuk menginspirasi siswa**.

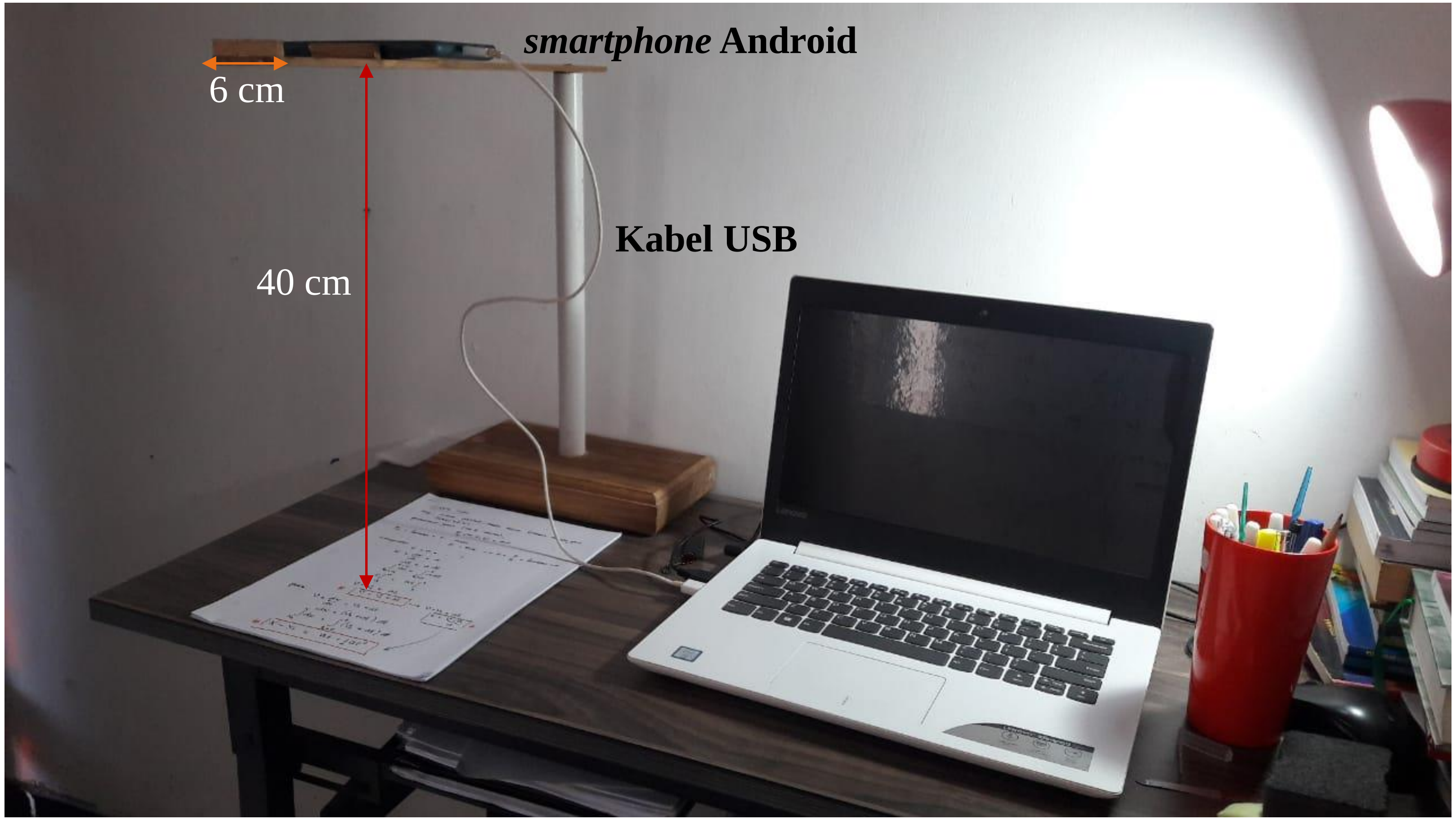
DroidCam terintegrasi Google Meet (GMeet) untuk Pembelajaran DARING

Dalam webinar hari ini kami ingin sharing penggunaan software aplikasi **DroidCam** terintegrasi **Google Meet** (**GMeet**) atau **Zoom** untuk meningkatkan kualitas pembelajaran fisika dan matematika secara daring.

DroidCam adalah aplikasi yang memanfaatkan kamera *smartphone* Android sebagai kamera PC atau Laptop. Karena memanfaatkan *smartphone* Android sebagai kamera tentu saja lebih mudah untuk menseting posisi kamera sesuai dengan kebutuhan pembelajaran. **DroidCam** bisa dihubungkan secara *wireless* dengan koneksi *wifi* atau dihubungkan dengan menggunakan kabel data USB.

DroidCam terintegrasi Google Meet (GMeet) atau Zoom





Meet - bxp-rsxq-fva — Mozilla Firefox

Warning: Potential Security Ris | Meet - bxp-rsxq-fva

https://meet.google.com/bxp-rsxq-fva?pli=1&authuser=1

00:39:36

Joko Purwanto is presenting

Silva shurayya and 14 more

25

You

Electromagnetic Fields 2nd Edition (PDFDrive).pdf - Adobe Acrobat Pro

File Edit View Window Help

Create | Customize

41 / 599 | 72,8% | Tools | Sign | Comment

which is usually written as

$$\nabla \cdot \mathbf{A} = \frac{1}{\rho}\frac{\partial}{\partial \rho}(\rho A_\rho) + \frac{1}{\rho}\frac{\partial A_\varphi}{\partial \varphi} + \frac{\partial A_z}{\partial z} \tag{1-87}$$

In the same manner, the expression for the curl becomes

$$\nabla \times \mathbf{A} = \hat{\boldsymbol{\rho}}\left(\frac{1}{\rho}\frac{\partial A_z}{\partial \varphi} - \frac{\partial A_\varphi}{\partial z}\right) + \hat{\boldsymbol{\varphi}}\left(\frac{\partial A_\rho}{\partial z} - \frac{\partial A_z}{\partial \rho}\right) + \hat{\mathbf{z}}\left[\frac{1}{\rho}\frac{\partial}{\partial \rho}(\rho A_\varphi) - \frac{1}{\rho}\frac{\partial A_\rho}{\partial \varphi}\right] \tag{1-88}$$

while $\nabla \cdot \nabla u$ turns out to be

$$\nabla^2 u = \frac{1}{\rho}\frac{\partial}{\partial \rho}\left(\rho \frac{\partial u}{\partial \rho}\right) + \frac{1}{\rho^2}\frac{\partial^2 u}{\partial \varphi^2} + \frac{\partial^2 u}{\partial z^2} \tag{1-89}$$

where u is a scalar function of position.

It is very important to remember that (1-86), (1-87), (1-88), and (1-89) *cannot* b[e] obtained from the corresponding expressions in rectangular coordinates as give[n] (1-41), (1-42), (1-43), and (1-46) by the simple replacement of x, y, z by ρ, [...] Similarly, (1-44) and (1-47) can only be used for rectangular coordinates; see (1-[...] for the definition of $\nabla^2 \mathbf{A}$ for other coordinate systems. You would be surprised at how often these mistakes are made.

1-17 SPHERICAL COORDINATES

In this system, the location of a point P is specified by the three quantities r, θ, φ shown in Figure 1-39. We see that r is the distance from the origin and thus the magnitude of the position vector $\mathbf{r}$, θ is the angle made by $\mathbf{r}$ with the positive z axis, while φ is again the angle made with the positive x axis by the projection of $\mathbf{r}$ onto the xy plane. The relations between the rectangular and spherical coordinates are seen to be

$$x = r\sin\theta\cos\varphi \qquad y = r\sin\theta\sin\varphi \qquad z = r\cos\theta \tag{1-90}$$

so that

$$r = (x^2 + y^2 + z^2)^{1/2} \qquad \tan\theta = \frac{(x^2+y^2)^{1/2}}{\ldots} \qquad \tan\varphi = \frac{y}{\ldots} \tag{1-91}$$

meet.google.com berbagi layar Anda. | Hentikan berbagi | Sembunyikan

$$\nabla \cdot \nabla u = \left(\frac{\partial}{\partial \rho}\hat{e}_\rho + \frac{1}{\rho}\frac{\partial}{\partial \phi}\hat{e}_\phi + \frac{\partial}{\partial z}\hat{e}_z\right) \cdot \left(\frac{\partial u}{\partial \rho}\hat{e}_\rho + \frac{1}{\rho}\frac{\partial u}{\partial \phi}\hat{e}_\phi + \frac{\partial u}{\partial z}\hat{e}_z\right)$$

$$= \hat{e}_\rho \cdot \frac{\partial}{\partial \rho}\left(\frac{\partial u}{\partial \rho}\hat{e}_\rho + \frac{1}{\rho}\frac{\partial u}{\partial \phi}\hat{e}_\phi + \frac{\partial u}{\partial z}\hat{e}_z\right) + \hat{e}_\phi \cdot \frac{1}{\rho}\frac{\partial}{\partial \phi}\left(\frac{\partial u}{\partial \rho}\hat{e}_\rho\right.$$

$$\left. + \frac{1}{\rho}\frac{\partial u}{\partial \phi}\hat{e}_\phi + \frac{\partial u}{\partial z}\hat{e}_z\right) + \hat{e}_z \cdot \left(\frac{\partial u}{\partial \rho}\hat{e}_\rho + \frac{1}{\rho}\frac{\partial u}{\partial \phi}\hat{e}_\phi + \frac{\partial u}{\partial z}\hat{e}_z\right)$$

You
Joko Purwanto
Siti Julaiha
BAGUS ABDURRAH...
K
Kamelia Hasna
Annisa Aulia Kurbah
Indah Permata S
AHMAD FITRIADI

Meeting details

Turn on captions

Joko Purwanto is presenting

Search

8:29
09/12/2020

41 / 599

which is usually written as

$$\nabla \cdot \mathbf{A} = \frac{1}{\rho}\frac{\partial}{\partial \rho}(\rho A_\rho) + \frac{1}{\rho}\frac{\partial A_\varphi}{\partial \varphi} + \frac{\partial A_z}{\partial z} \tag{1-87}$$

In the same manner, the expression for the curl becomes

$$\nabla \times \mathbf{A} = \hat{\boldsymbol{\rho}}\left(\frac{1}{\rho}\frac{\partial A_z}{\partial \varphi} - \frac{\partial A_\varphi}{\partial z}\right) + \hat{\boldsymbol{\varphi}}\left(\frac{\partial A_\rho}{\partial z} - \frac{\partial A_z}{\partial \rho}\right) + \hat{\mathbf{z}}\left[\frac{1}{\rho}\frac{\partial}{\partial \rho}(\rho A_\varphi) - \frac{1}{\rho}\frac{\partial A_\rho}{\partial \varphi}\right] \tag{1-88}$$

while $\nabla \cdot \nabla u$ turns out to be

$$\nabla^2 u = \frac{1}{\rho}\frac{\partial}{\partial \rho}\left(\rho \frac{\partial u}{\partial \rho}\right) + \frac{1}{\rho^2}\frac{\partial^2 u}{\partial \varphi^2} + \frac{\partial^2 u}{\partial z^2} \tag{1-89}$$

where u is a scalar function of position.

It is very important to remember that (1-86), (1-87), (1-88), and (1-89) *cannot* be obtained from the corresponding expressions in rectangular coordinates as given by (1-41), (1-42), (1-43), and (1-46) by the simple replacement of x, y, z by ρ, φ, z. Similarly, (1-44) and (1-47) can only be used for rectangular coordinates; see (1-120) for the definition of $\nabla^2\mathbf{A}$ for other coordinate systems. You would be surprised at how often these mistakes are made.

1-17 SPHERICAL COORDINATES

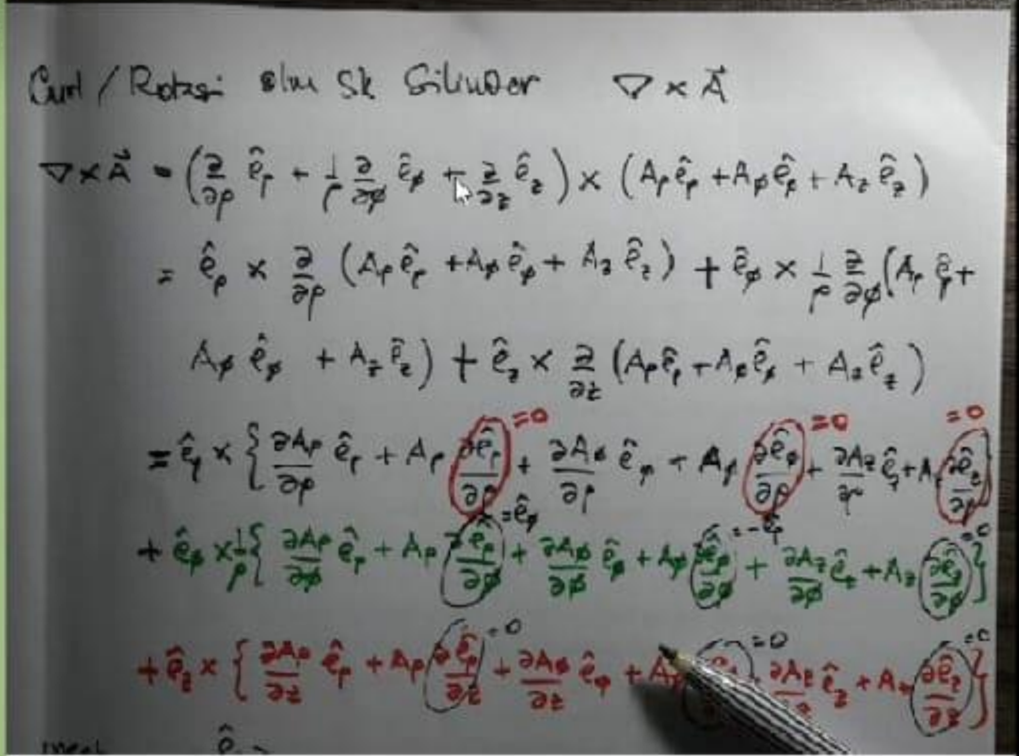
In this system, the location of a point P is specified by the three quantities r, θ, φ shown in Figure 1-39. We see that r is the distance from the origin and thus the magnitude of the position vector $\mathbf{r}$, θ is the angle made by $\mathbf{r}$ with the positive z axis, while φ is again the angle made with the positive x axis by the projection of $\mathbf{r}$ onto the xy plane. The relations between the rectangular and spherical coordinates are seen to be

$$x = r\sin\theta\cos\varphi \qquad y = r\sin\theta\sin\varphi \qquad z = r\cos\theta \tag{1-90}$$

so that

$$r = (x^2 + y^2 + z^2)^{1/2} \qquad \tan\theta = \frac{(x^2 + y^2)^{1/2}}{z} \qquad \tan\varphi = \frac{y}{x} \tag{1-91}$$

We define a set of mutually perpendicular unit vectors … and $\hat{\boldsymbol{\varphi}}$ in the sense of increasing r, θ, and φ, respectively, as shown in Figure … that as the locati… of … is changed, all three of these vectors also change … tions analo…



DroidCam terintegrasi Google Meet (GMeet) atau Zoom

Langkah-langkah installasi DroidCam terintegrasi Google Meet atau Zoom

1. Install Aplikasi DroidCam di PC atau Laptop

   Unduh aplikasi DroidCam untuk windows di sini https://www.dev47apps.com/DroidCam/windows/

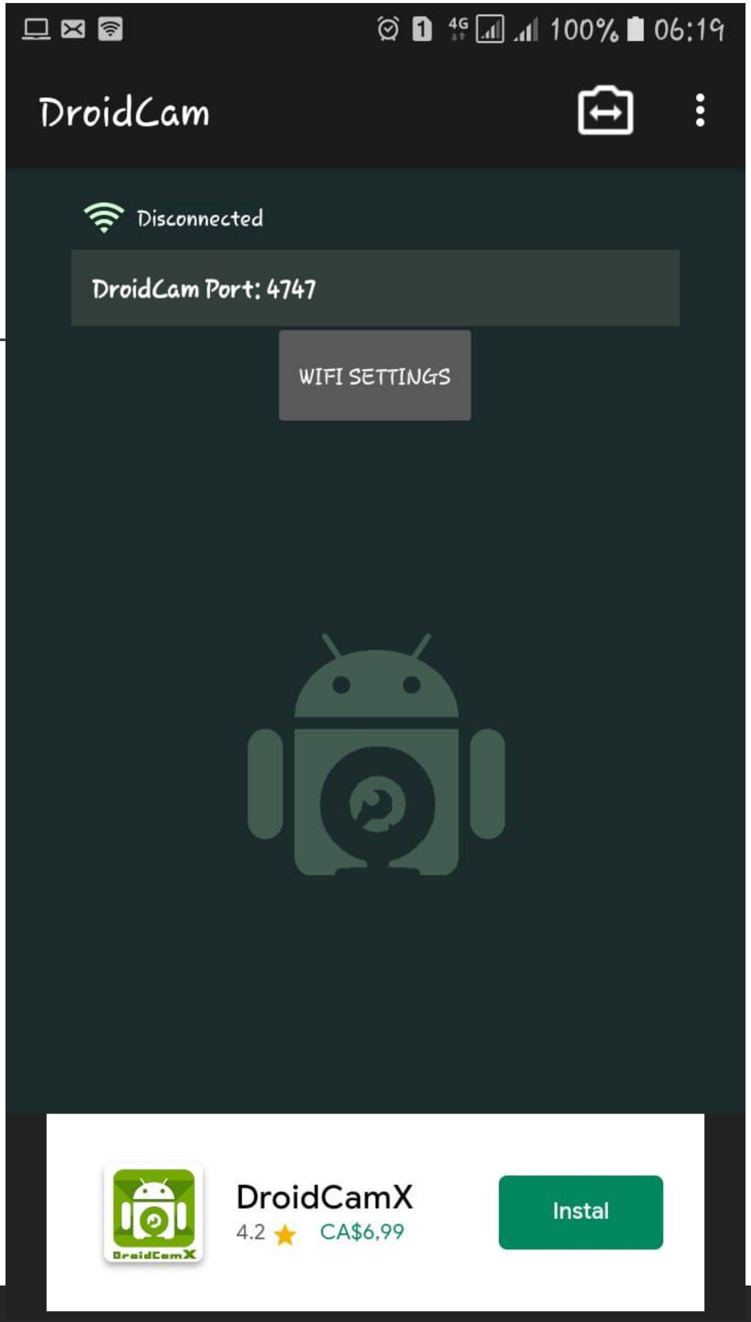
2. Install Aplikasi DroidCam di *smartphone* Android

   Unduh aplikasi DroidCam dari Google Playstore atau Apple Store kemudian install

3. Aktifkan Mode Developer (Mode Pengembang) atau Developer Option pada *smartphone* Android
4. Aktifkan USB debuging pada Mode Pengembang tersebut.

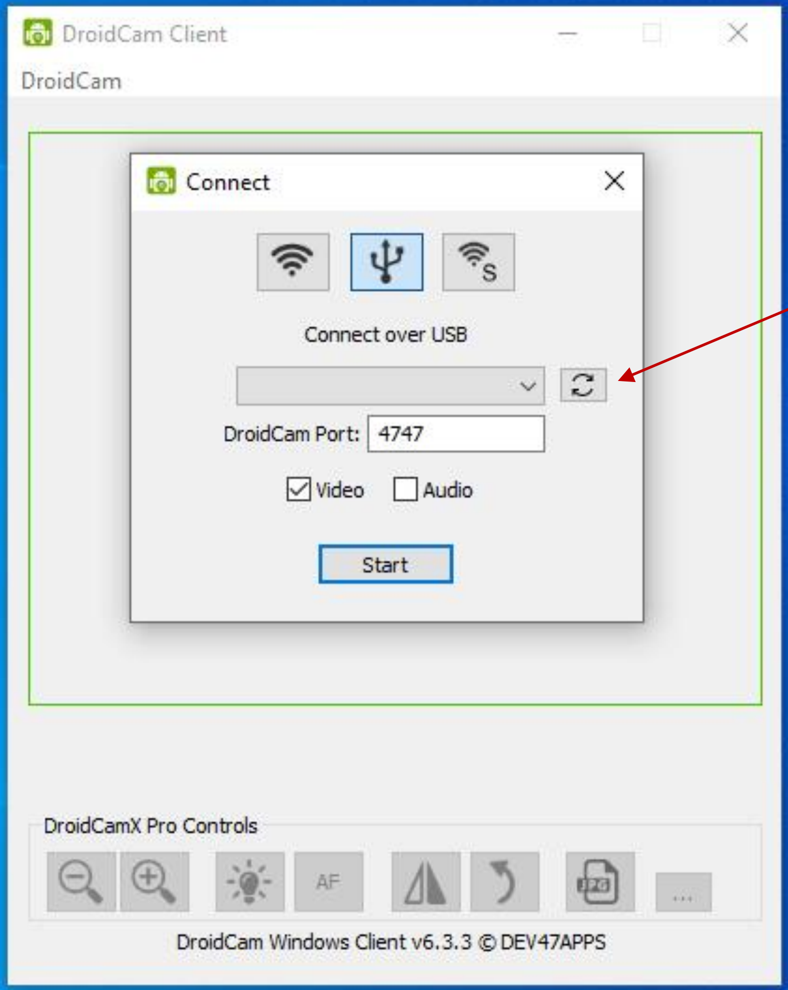
Lebih lengkap bisa dilihat di video berikut: https://www.youtube.com/watch?v=b-gO30K6_i0

Aktifkan DroidCam pada smartphone Android

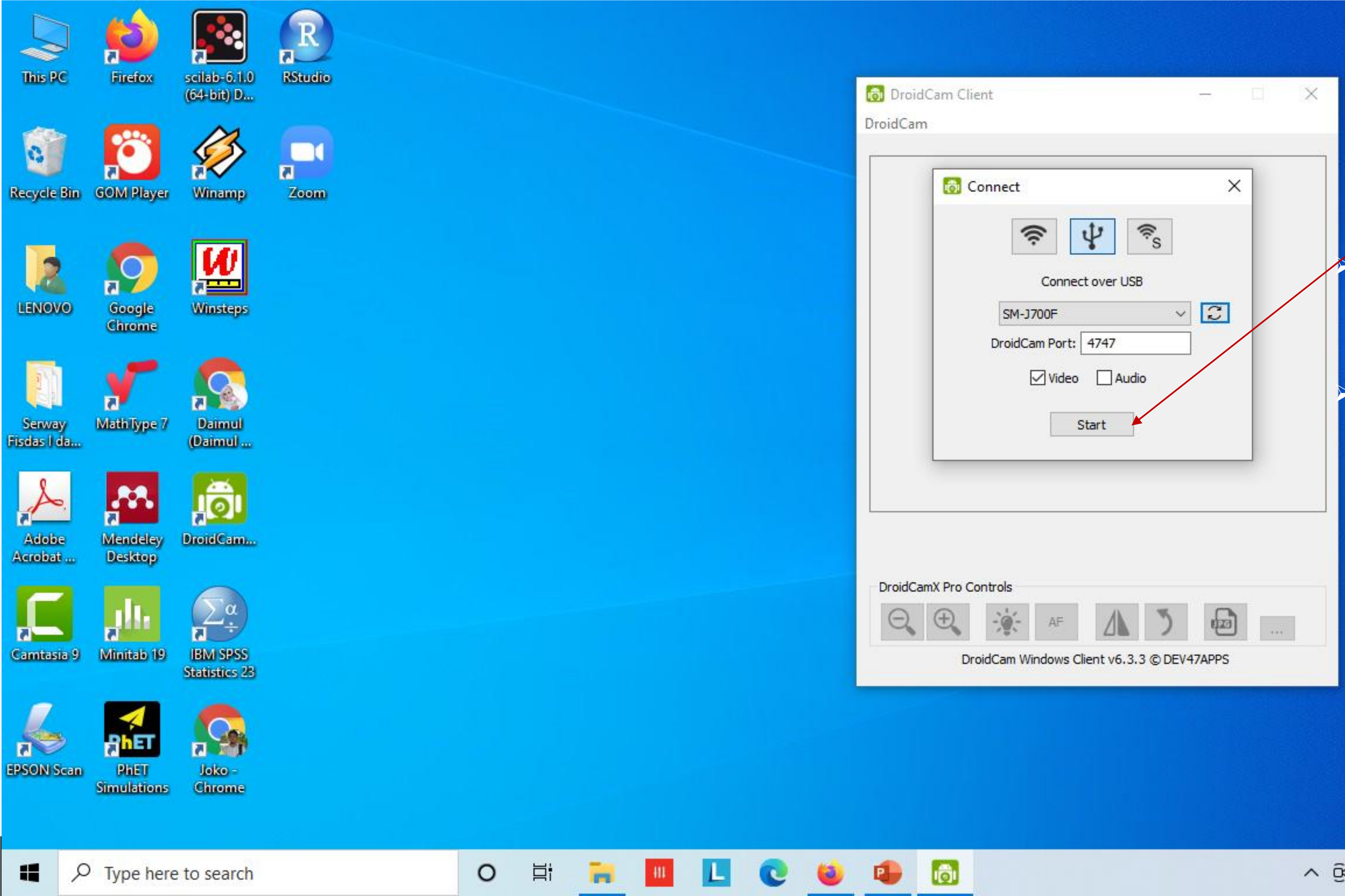


Aktifkan DroidCam pada Laptop atau PC

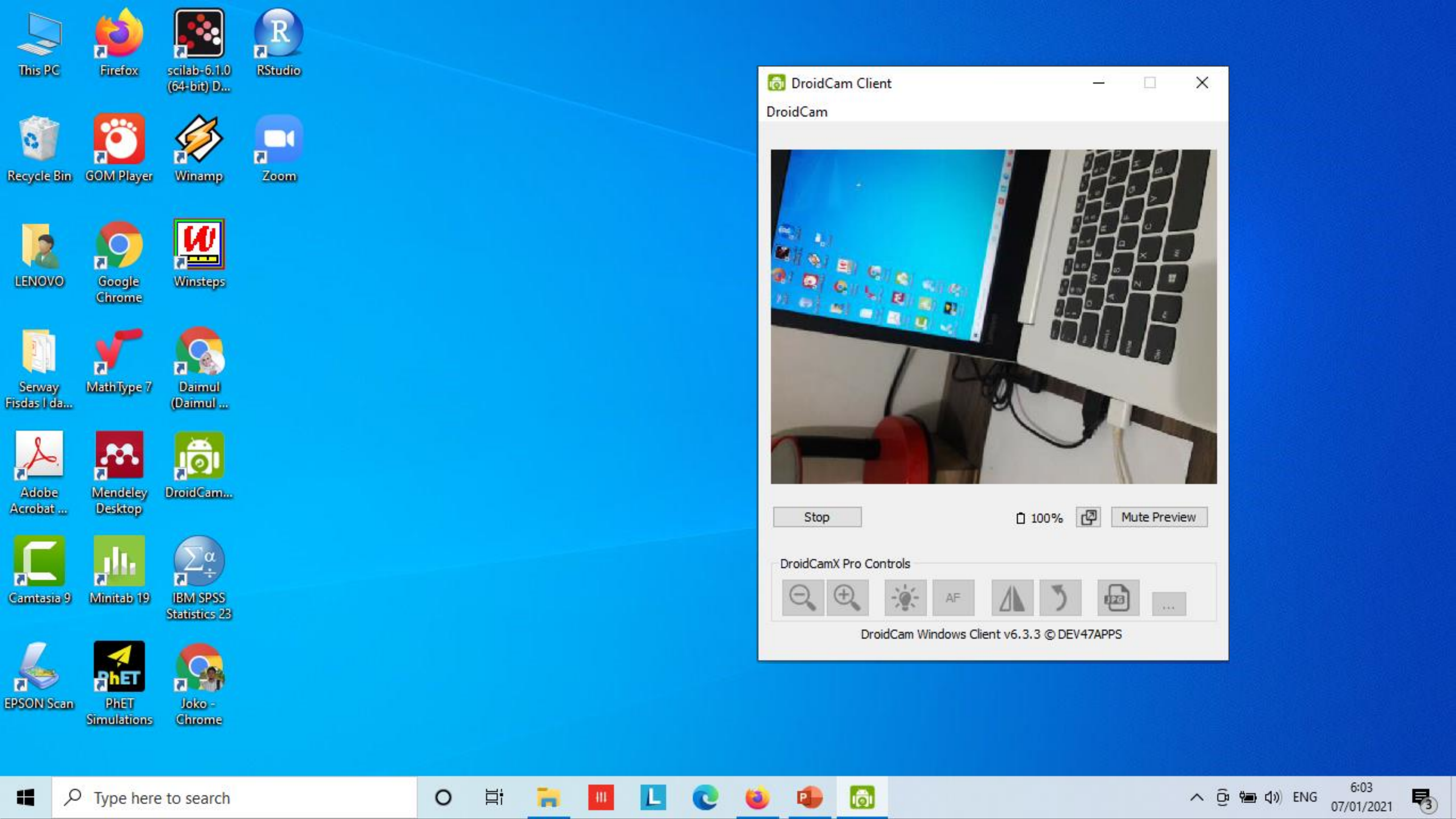
Akan muncul ikon ini jika DroidCam sudah dinstall pada PC atau Laptop

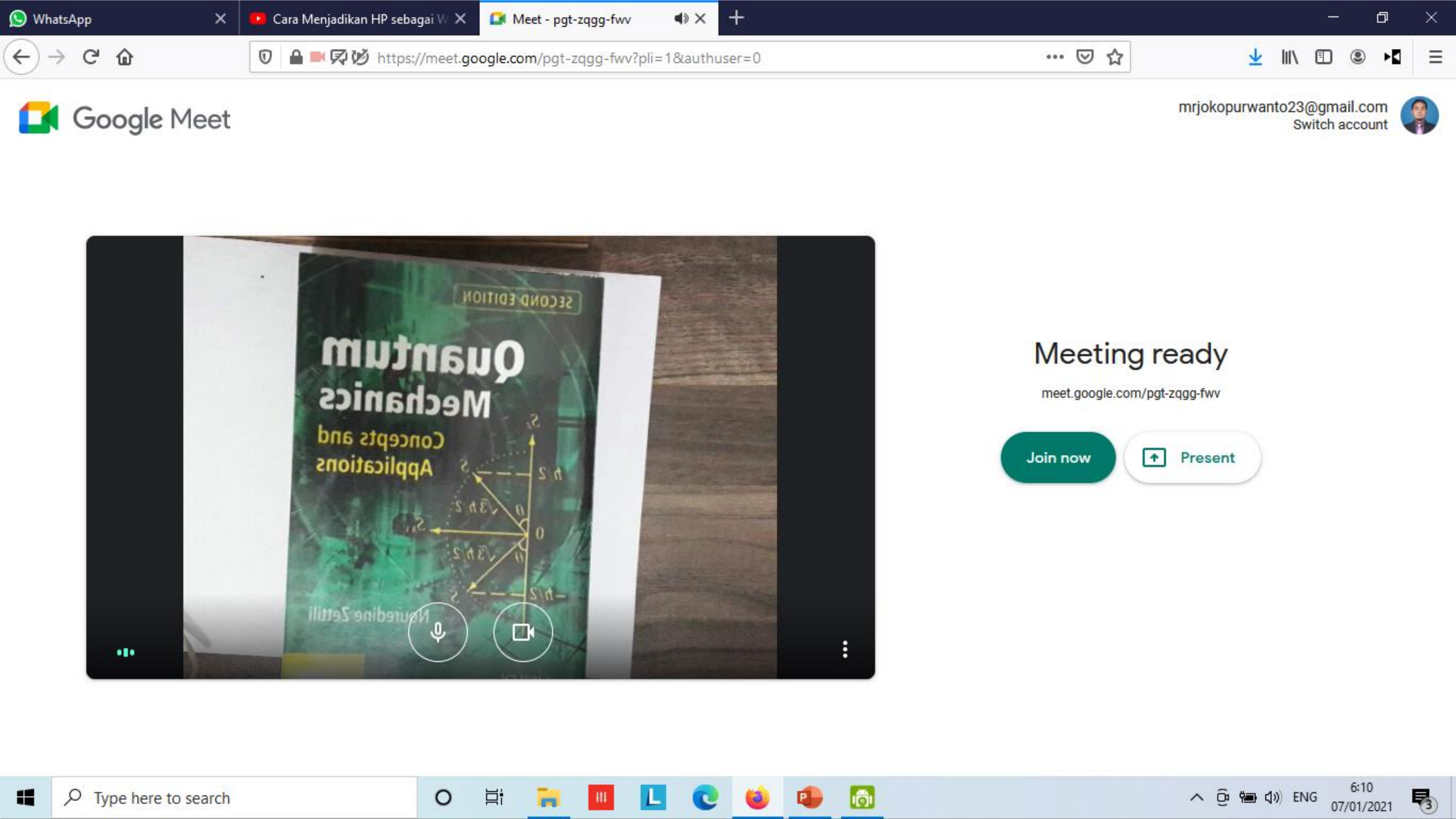


Klik untuk menghubungkan dengan smartphone Android yg sdh terinstall DroidCam



- Klik ‘Start’ untuk mulai menghubungkan dengan smartphone
- Centang ‘Audio’ jika ingin menggunakan smartphone sebagai mikrofon


This PC
Firefox
scilab-6.1.0 (64-bit) D...
RStudio
Recycle Bin
GOM Player
Winamp
Zoom
LENOVO
Google Chrome
Winsteps
Serway Fisdas I da...
MathType 7
Daimul (Daimul ...
Adobe Acrobat ...
Mendeley Desktop
DroidCam...
Camtasia 9
Minitab 19
IBM SPSS Statistics 23
EPSON Scan
PhET Simulations
Joko - Chrome
DroidCam Client
DroidCam
Stop
100%
Mute Preview
DroidCamX Pro Controls
AF
DroidCam Windows Client v6.3.3 © DEV47APPS
Type here to search
ENG
6:03
07/01/2021



WhatsApp
Cara Menjadikan HP sebagai W
Meet - pgt-zqgg-fwv
https://meet.google.com/pgt-zqgg-fwv?pli=1&authuser=0
Google Meet
mrjokopurwanto23@gmail.com
Switch account
Meeting ready
meet.google.com/pgt-zqgg-fwv
Join now
Present
Type here to search
ENG
6:10
07/01/2021

which is usually written as

$$\nabla \cdot \mathbf{A} = \frac{1}{\rho}\frac{\partial}{\partial \rho}(\rho A_\rho) + \frac{1}{\rho}\frac{\partial A_\varphi}{\partial \varphi} + \frac{\partial A_z}{\partial z} \tag{1-87}$$

In the same manner, the expression for the curl becomes

$$\nabla \times \mathbf{A} = \hat{\rho}\left(\frac{1}{\rho}\frac{\partial A_z}{\partial \varphi} - \frac{\partial A_\varphi}{\partial z}\right) + \hat{\varphi}\left(\frac{\partial A_\rho}{\partial z} - \frac{\partial A_z}{\partial \rho}\right) + \hat{z}\left[\frac{1}{\rho}\frac{\partial}{\partial \rho}(\rho A_\varphi) - \frac{1}{\rho}\frac{\partial A_\rho}{\partial \varphi}\right] \tag{1-88}$$

while $\nabla \cdot \nabla u$ turns out to be

$$\nabla^2 u = \frac{1}{\rho}\frac{\partial}{\partial \rho}\left(\rho \frac{\partial u}{\partial \rho}\right) + \frac{1}{\rho^2}\frac{\partial^2 u}{\partial \varphi^2} + \frac{\partial^2 u}{\partial z^2} \tag{1-89}$$

where u is a scalar function of position.

It is very important to remember that (1-86), (1-87), (1-88), and (1-89) *cannot* be obtained from the corresponding expressions in rectangular coordinates as given by (1-41), (1-42), (1-43), and (1-46) by the simple replacement of x, y, z by ρ, φ, z. Similarly, (1-44) and (1-47) can only be used for rectangular coordinates; see (1-120) for the definition of $\nabla^2\mathbf{A}$ for other coordinate systems. You would be surprised at how often these mistakes are made.

1-17 SPHERICAL COORDINATES

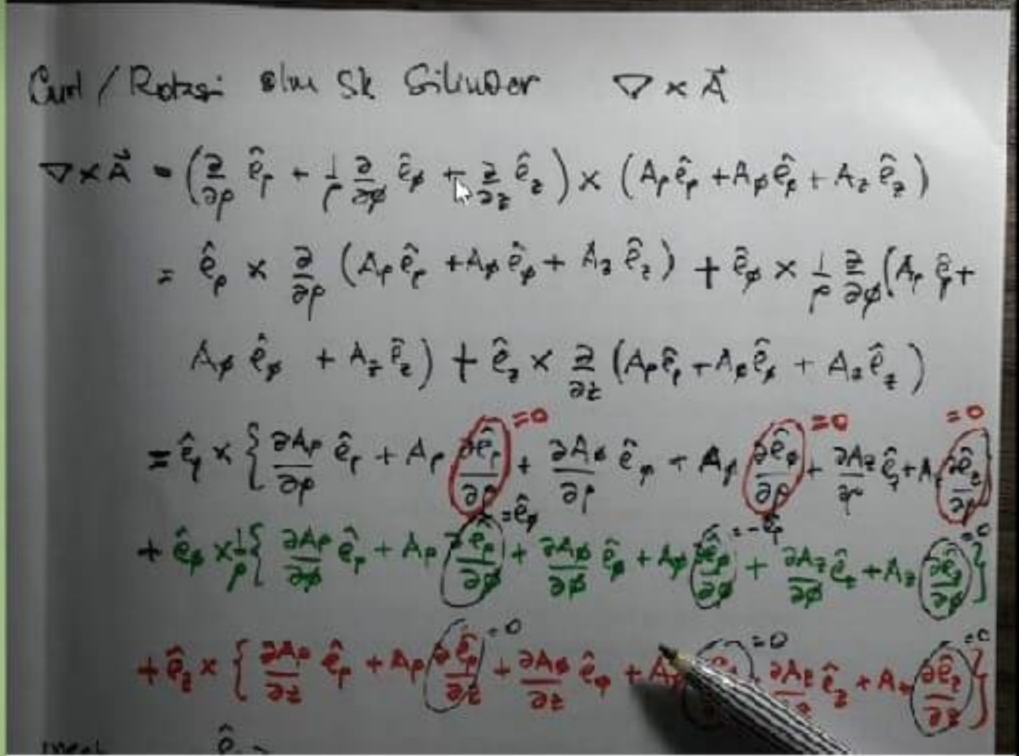
In this system, the location of a point P is specified by the three quantities r, θ, φ shown in Figure 1-39. We see that r is the distance from the origin and thus the magnitude of the position vector $\mathbf{r}$, θ is the angle made by $\mathbf{r}$ with the positive z axis, while φ is again the angle made with the positive x axis by the projection of $\mathbf{r}$ onto the xy plane. The relations between the rectangular and spherical coordinates are seen to be

$$x = r\sin\theta\cos\varphi \qquad y = r\sin\theta\sin\varphi \qquad z = r\cos\theta \tag{1-90}$$

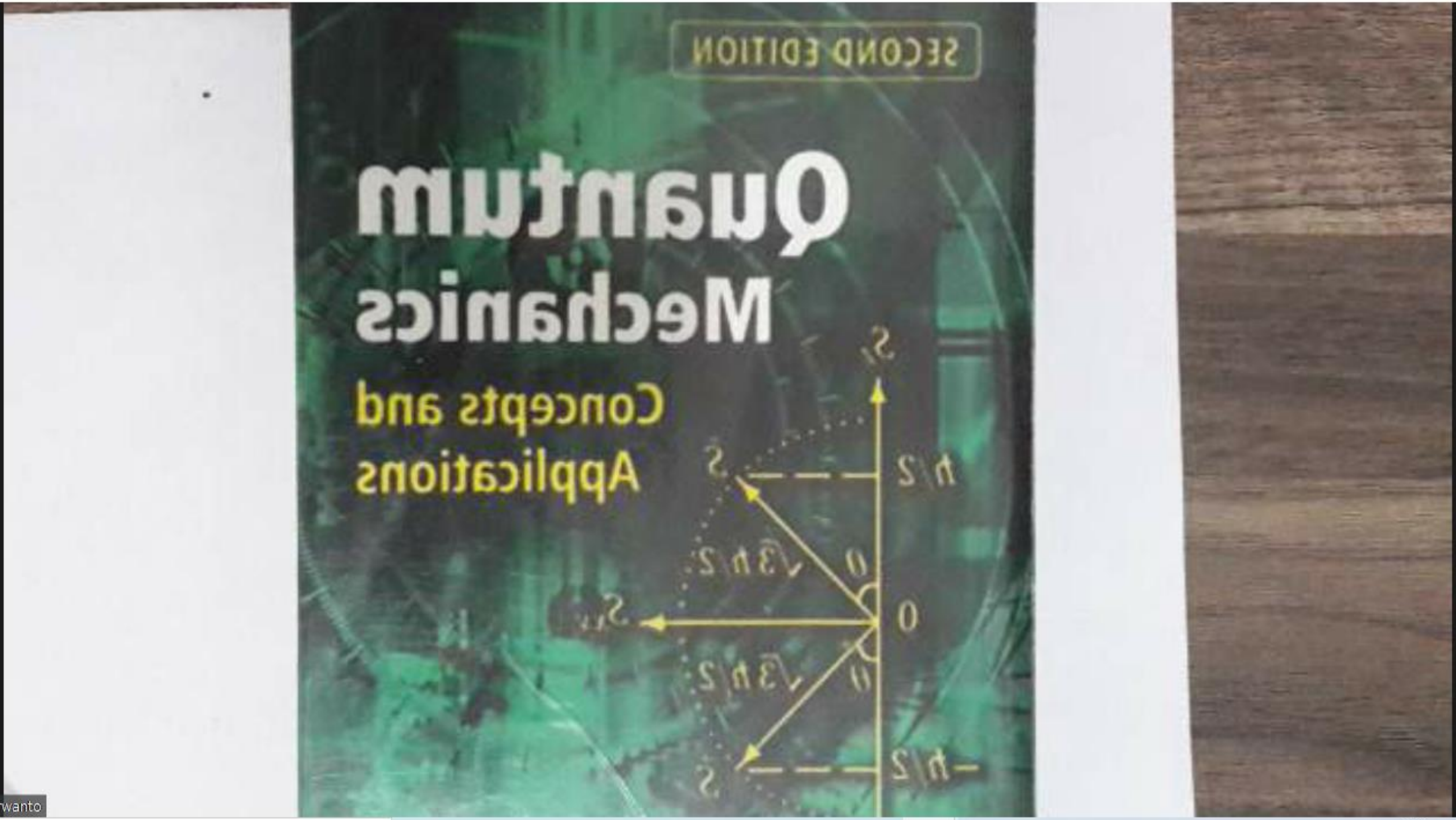
so that

$$r = (x^2 + y^2 + z^2)^{1/2} \qquad \tan\theta = \frac{(x^2 + y^2)^{1/2}}{z} \qquad \tan\varphi = \frac{y}{x} \tag{1-91}$$

We define a set of mutually perpendicular unit vectors $\hat{r}$, $\hat{\theta}$, and $\hat{\varphi}$ in the sense of increasing r, θ, and φ, respectively, as shown in Figure ... that as the location ... is changed, all three of these vectors also change ... tions analo...



Zoom Meeting



Joko Purwanto

Type here to search

ENG 6:13 07/01/2021