Ref. No.: IISc/AE/Tender/2026/Global/DyeLaser Date: 27th March 2026

Global tender notification for the procurement of a pulsed tunable dye laser (Last Date for Submission: 20th April 2026)

This is a Request for quote (RFQ) from for procurement of a pulsed tunable dye laser at the department of Aerospace Engineering, Indian Institute of Science, Bangalore. The tender should be submitted in two separate sealed envelopes: one containing the technical bid and the other containing the commercial bid, both of which should reach us, duly signed on or before 5 PM on 20th April 2026.

The bids should be addressed to:

The Chairman,
Department of Aerospace Engineering
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Dr. Irfan Mulla
email: irfanmulla@iisc.ac.in, chair.aero@iisc.ac.in

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Section 1: Bid Schedule

1.	Tender No	IISc/AE/Tender/2026/Global/DyeLaser
2.	Tender date	27th March 2026
3.	Instrument	A pulsed tunable dye laser
4.	Tender type	i) Technical bid (Part A) ii) Commercial bid (Part B)
5.	Place of tender submission	The Chairman, Department of Aerospace Engineering Indian Institute of Science Bangalore 560012, India. Kind attention: Dr. Irfan Mulla
6.	Last date and time of tender submission	20th April 2026, 5 PM
7.	Contact for further clarification	Dr. Irfan Mulla Department of Aerospace Engineering Indian Institute of Science Bangalore 560012, India. Ph: +91-80-2293-2875 email: irfanmulla@iisc.ac.in

Section 2: Eligibility Criteria

Prequalification criteria:

1. Only the Original Equipment Manufacturer or their authorized representatives across the globe shall participate in the bid.
2. The order will be placed only on the bidder who participated in the bid.
3. The Bidder's firm and the original equipment manufacturers (OEM) firm should have existence for a minimum of 5 years.
4. The Bidder should have supplied at least 3 similar equipment in India in the past.
5. If the Bidder is a local Distributor/Dealer/Agent, it is mandatory to attach the authorization certificate along with the technical bid from the OEM.
6. The Bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per - Annexure 4.
7. The Bidder must be not blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect has to be given as per Annexure 3.

Section 3: Technical Specification for a pulsed tunable dye laser

Submit quote for one pulsed tunable dye laser with the following specifications.

Bidder should respond to each point listed below in Sec. T1, T2, and T3.

T1. Mandatory specifications:

S.N.	**Parameter** (unit)	**Specification**
1.	Nominal pulse repetition rate (Hz)	10
2.	Fundamental tuning range (nm)	Range of interest is 420 – 740 nm Wider range is also acceptable provided it covers 420 – 740 nm, e.g., 370 – 760 nm.
3.	Single Grating	≥ 2400 lines/mm
4.	Linewidth (cm^{-1}) of fundamental beam	≤ 0.06 @ 570 nm
5.	Pumping/conversion efficiency	≥ 30% at 566 or 570 nm with Rhodamine 6G dye pumped at 532 nm at 10 Hz rate.
6.	Dye cell design	Bethune cell for better efficiency and beam quality.
7.	Wavelengths needed	225, 230, 353, and 283 nm
8.	Energy when pumped with 400 mJ@532 nm at 10 Hz rate	≥ 25 mJ @ 283 nm ≥ 20 mJ @ 353 nm ≥ 5 mJ @ 225 ≥ 3.5 mJ @ 230 nm
9.	Pulse width (ns) when pumped with below mentioned Nd:YAG laser	4 – 9 @ all wavelengths or in a close match with the pump laser pulse width
10.	Beam diameter (mm)	3 – 8 at fundamental and harmonics
11.	Beam divergence (mrad), full angle at $1/e^2$ of the peak	≤ 0.5 at fundamental and harmonics
12.	Polarization ratio	> 98% at fundamental output
13.	Amplified stimulated emission (ASE)	< 0.5% at the peak of the tuning range of a given dye
14.	Absolute wavelength accuracy, after calibrating against a wavemeter or known emission spectrum	≤ 10 pm (picometer)
15.	Wavelength reproducibility	≤ 2 pm
16.	Thermal stability of wavelength	≤ 1 pm/°C
17.	Scan linearity	≤ 2 pm
18.	Wavelength generation approach	*As described below*
18a.		225, 230 nm through frequency-tripling of fundamental dye output. Please specify the linewidth @ 225 and 230 nm.

18b.		283, 353 nm through frequency-doubling of fundamental dye output. Please specify the linewidth @ 283 and 353 nm.

T2. Mandatory requirements/features:

1. Product warranty from the date of installation:
    a. At least 90 days for optics.
    b. At least 12 months for the remaining dye laser system.
2. Delivery: Within 3 months from the date of purchase order.
3. The electronics hardware unit should be integrated within the dye laser bench for compactness.
4. The laser should be installed by a technical expert of either the manufacturer or their authorized Indian technician. Complete training should be given on the operation, alignment, and maintenance of the dye laser. The technical expert of the dye laser should be able to integrate the pump laser (pulsed Nd:YAG laser) of any manufacturer and complete the installation by demonstrating the quoted output energies in the UV and visible regions.
5. Necessary optics with suitable opto-mechanics should be provided to couple the pump laser to the dye laser. This should also include pump beam alignment tools, e.g., optics, mounts, alignment target, etc. To adjust the height of the pump laser, a suitable optical bench can be provided by us.
6. Spatial beam profile: Approximately circular shape with either quasi top-hat or gaussian energy distribution. Please attach samples of near-field and far-field beam profiles indicating typical energy distribution and profiles along the vertical and horizontal axes of the beam.
7. The dye laser optics should either be coated with both 355 nm and 532 nm pumping options or necessary set of separate optics (each for 355 nm and 532 nm pumping) should be provided with the dye laser.
8. Harmonic generators:
    a. Second harmonic generation stage with necessary crystal and beam walk-off compensator for 283, 353 nm generation from dye fundamental.
    b. Third harmonic generation stage with necessary crystal and beam walk-off compensator for 225, 230 nm generation from dye fundamental.
    c. All harmonic crystals should be thermally stabilized for optimum performance.
9. Wavelength separation: Separation unit with 4 Pellin-Broca prisms to remove fundamental dye output from its harmonics.
10. Wavelength control and scanning: The dye laser should have the facility to control all its parameters using an external computer. The necessary cables, power adapters, and software should be supplied. The computer will be provided by us at the time of installation.
11. Wavelength calibration: A pre-calibrated open loop against the look-up table.
12. Fully automatic scan with auto-tracking feature. Automatic scanning should be performed with a 1 pm step through provided software.
13. Excitation/Emission spectrum of a laser-induced fluorescence signal should be demonstrated for a target species (e.g., OH at 283 nm) during the installation through the vendor software or LabVIEW program using the available intensified camera.
14. Following quantity of the necessary dyes should be provided with the system to generate:
    a. 225, 230, and 353 nm, Pyridine 1 / LDS 698: 3 grams
    b. 283 nm, Rhodamine 590: 3 grams
    c. 204-205 nm, DCM dye: 2 grams
    d. 214 nm, Rhodamine 101 dye: 2 grams

    Ethanol solvent will be supplied by us during the installation.
15. Eight additional dye circulator filters should be supplied with the system.
16. A document with complete information about the concentrations of the dyes and the solvents required to generate 204, 205, 214, 283, 353 nm should be provided with the system.

17. 220-240VAC@50Hz, a single-phase power supply to control the laser is preferred.
18. Servicing/repair: If the need arises, local servicing/repairs should be attended to within five business days. It is mandatory to have a skilled dye laser technician/engineer located within India. The local technician should have substantial experience in servicing/repairing the dye laser. The bidder should provide a letter indicating details of the training received and experience in years. This letter should be endorsed by the manufacturer. The technician must have a minimum of 5 years of experience in dye laser servicing.
19. The vendor shall include at least two and up to five testimonials from existing users of a similar laser system indicating the performance of the laser and maintenance satisfaction.
20. The vendor must submit a list of all Indian customers (only Government of India organizations) where similar systems have been installed. References from this list can be used to disqualify vendors with a poor track record of service, build quality, system performance, or poor availability of spares. Additionally, IISc shall have the absolute right to take the opinion of other departments/institutes for their opinion/experience about the bidder's services/sales. Based on such input, IISc may decide about the rejection of a bid of such bidder(s).

T3. Optional requirements/features:

1. Frequency tripling crystal to generate 204, 205, 214 nm wavelengths from dye laser fundamental output with pumping at 532 nm. The output energy should be as follows for pumping with 400 mJ @ 532 nm: ≥ 4 mJ @ 204, 205, 214 nm. The crystal should include thermal stabilization and compensator.
2. An additional dye circulator to enable switching between dyes.
3. Extended optics and dye laser system warranty
4. Dye laser bench, including frequency-doubling and frequency-tripling units, should preferably fit within Length = 1600 mm, Height = 350 mm, and Width = 450 mm.

T4. Specifications of the pump laser with which dye laser is to be integrated

The procured dye laser will be pumped using a Nd:YAG laser with the following key specifications.

S.N.	**Parameter** (unit)	**Specification**
1.	Pulse repetition rate (Hz)	10
2.	Energy per pulse (mJ)	*As described below*
2a.		430 @ 532 nm
2b.		230 @ 355 nm
3.	Pulse duration (ns)	5 to 9 @ 532, 355 nm
4.	Beam diameter (mm)	8 to 10
5.	Beam divergence (mrad), full angle at $1/e^2$ of the peak	< 0.5 @ 1064 nm
6.	Spatial beam profile @ 1064 nm (fit to gaussian)	*As described below*
6a.		> 0.7 for near field
6b.		> 0.9 for far field
7.	Polarization ratio (%)	> 80 @ 1064 nm
8.	Pointing stability, full angle value at all harmonics (μrad)	< 50 @ 532 nm

9.	Linewidth (cm^{-1}) measured at FWHM	≤ 1 @ 1064 nm

T5. Commercial bid price break-up

In the **commercial bid**, please provide the price of individual components, preferably in the following manner. The vendor **should not** disclose prices in the technical bid.

1. Dye laser fundamental unit with all optics
2. Frequency doubling and tripling stage units with all optics to generate 283, 353, 225, 230 nm
3. Pellin-Broca separation unit
4. Optics to couple pump laser to dye laser
5. Auto-tracking unit
6. CIP Charges.

The following optional items

1. Frequency tripling crystal with compensator to generate 204, 205 and 214 nm
2. Additional dye circulator
3. Extended warranty for optics and remaining dye laser system

Section 4: Terms and Conditions

1. All documentations in the tender should be in English.
2. Tender should be submitted in two envelopes (two bid system).
   a) Technical Bid (Part-A) – Technical bid consisting of all technical details and checklist for conformance to technical specifications. The proposal should contain a compliance table. The compliance table should include all the items of the technical specifications in the same order and format. The first additional column should describe product specifications. The next column should indicate compliance in a "Yes" or "No" response.
   b) Commercial Bid (Part-B) – Indicating item-wise price for the items mentioned in the technical bid, as per the format of quotation provided in tender, and other commercial terms and conditions.
3. The technical bid and price bid should each be placed in separate sealed covers, superscribing on both the envelopes the tender no. and the due date. Both these sealed covers are to be placed in a bigger cover which should also be sealed and duly superscribed with the Tender No, Tender Description & Due Date.
4. The SEALED COVER superscribing tender number and due date & should reach the office of the Chairman, Department of Aerospace Engineering Indian Institute of Science Bangalore 560012, India. Kind attention: Dr. Irfan Mulla, on or before the due date mentioned in the tender notice. In case the due date happens to be a holiday, the tender will be accepted and opened on the next working day. If the quotation cover is not sealed, it will be rejected.
5. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect should be provided.
6. The vendor must provide a compliance statement in a tabular form concerning each technical specification in the tender document duly supported by the manufacturer's literature or published papers. Any other claim will not be accepted and may lead to the rejection of the bid.
7. Wherever requested, data must be supplied along with technical compliance documents. Technical bids without supporting data will be deemed as technically non-compliant.
8. The institute reserves the right to verify the accuracy and seek clarification of submitted specifications after opening the technical bids. Based on such clarification, if specifications are found to be unsuitable, the technical committee reserves the right to disqualify vendors. Any discrepancy between the promised and verified specifications will be deemed as technical non-compliance.
9. The technical bid should also contain warranty details and terms. Further, any periodic maintenance requirements for regular operation should be specified in detail, along with the extent of coverage under warranty for such maintenance activity.
10. The bidder will provide the prerequisite installation requirement of the equipment along with the technical bid. The vendor is responsible for the installation of the system at the institute, along with the training of end-users.
11. In the commercial bid, the price should be inclusive of all discounts (CIF Bangalore, applicable Custom Duty will be borne by the Institute). The price quotation should include the cost of installation and training of potential users if any. Please quote the price of each optional item, separately.
12. Any statutory increase in the taxes and duties subsequent to the bidder's offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore, subject to the claim being supported by documentary evidence. However, if any decrease takes place, the

advantage will have to be passed on to IISc, Bangalore. Any information furnished by the bidder found to be incorrect, either immediately or at a later date, would render the bidder liable to be debarred from the bidding process.

13. Notwithstanding anything specified in this tender document, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:
    a) To accept OR reject the lowest tender or any other tender or all the tenders.
    b) To accept any tender in full or in part.
    c) To reject the tender offer not conforming the tender terms.
14. IISc reserves the right to relax any or all of the above conditions without assigning any reason.

Annexure 1:

Details of the Bidder: The bidder must provide the following mandatory information & attach supporting documents wherever mentioned:

Sr. No.	Type	Details
1.	Name of the Bidder	
2.	Nature of Bidder (Attach attested copy of Certificate of Incorporation/ Partnership Deed)	
3.	Registration No/ Trade License, (attach attested copy)	
4.	Registered Office Address	
5.	Address for communication	
6.	Contact person- Name and Designation	
7.	Telephone No	
8.	Email ID	
9.	Website	
10.	PAN No. (attach copy)	
11.	GST No. (attach copy)	

(Signature of the Bidder)
Name: Date:
Designation, Seal

Annexure 2:

Declaration regarding experience

To,

The Chairman,
Department of Aerospace Engineering
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Dr. Irfan Mulla

Ref: Tender No:

Dated:

Sub: Supply and installation of a pulsed tunable dye laser

I have carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company / firm has ---- years of experience in supplying and installing a pulsed tunable dye laser. ---- number of similar systems are supplied in India by us.

I also declare that my company / firm has a skilled dye laser technician/engineer located within India. The local technician has ---- years/months of experience in servicing/repairing the dye laser. The details of the training received are ---. The training details are endorsed by the dye laser manufacturer.

(Signature of the Bidder)
Name: Date:
Designation, Seal

(Signature of the laser manufacturer)
Name: Date:
Designation, Seal

Annexure 3:

Declaration of track record

To,
The Chairman,
Department of Aerospace Engineering
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Dr. Irfan Mulla

Ref: Tender No:

Dated:

Sub: Supply and installation of a pulsed tunable dye laser

Sir,

I have carefully gone through the Terms & Conditions contained in the above referred tender.

I hereby declare that my company / firm is not currently debarred / blacklisted by any Government / Semi-Government organizations / institutions in India or abroad. I further certify that I am competent officer in my company / firm to make this declaration.

OR

I declare the following:

Sr. No.	Country in which the company is debarred/ blacklisted / having pending case	Blacklisted / debarred by Government / Semi Government Organizations or Institutions / having pending case	Reason	Time Period

(Note: In case the company / firm was blacklisted previously, please provide the details regarding period for which the company / firm was blacklisted and the reason/s for the same).

(Signature of the Bidder)
Name: Date:
Designation, Seal

Annexure 4:

Declaration of acceptance of terms and conditions

To,
The Chairman,
Department of Aerospace Engineering
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Dr. Irfan Mulla

Ref: Tender No:

Dated:

Sub: Supply and installation of a pulsed tunable dye laser

Sir,

I have carefully gone through the Terms & Conditions contained in the above referred tender document. I declare that all the provisions of this tender document are acceptable to my company. I further certify that I am an authorized signatory of my company and am, therefore, competent to make this declaration.

(Signature of the Bidder)
Name: Date:
Designation, Seal

Annexure 5:

Details of items quoted:

a. Company Name
b. Product Name
c. Part / Catalogue number
d. Product description / main features
e. Detailed technical specifications
f. Remarks, if applicable

Instructions to bidders:

1. Bidder should provide technical specifications of the quoted product/s in detail.
2. Bidder should attach product brochures along with technical bid.
3. Bidders should clearly indicate compliance or non-compliance of the technical specifications provided in the tender document.

Section 5 – Commercial Bid

The commercial bid should be furnished with all requirements of the tender with supporting documents as mentioned below. Do include total price including, taxes, and any other charges. Please provide the price of individual components, preferably in the following manner.

Items requested in the mandatory specification section:

1. Dye laser fundamental unit with all optics
2. Frequency doubling and tripling stage units with all optics to generate 283, 353, 225, 230 nm
3. Pellin-Broca separation unit
4. Optics to couple pump laser to dye laser
5. Auto-tracking unit
6. CIP Charges.

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total
1.	Essential items noted in the technical specification				
2	… (details of essential items)				
3.	Warranty (years)				
4.	FOR-IISc Bangalore only				

Items requested in the optional specification section:

1. Frequency tripling crystal with compensator to generate 204, 205 and 214 nm
2. Additional dye circulator
3. Extended warranty for optics and remaining dye laser system

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total
1.	Optional items noted in the technical specification				
2	… (details of Optional items)				
3.	Warranty (years)				
4.	FOR-IISc Bangalore only				

Section 6 - Checklist

The following items must be checked before the bid is submitted.

1. Sealed Envelope "A": Technical Bid
   Technical bid (signed by the authorized signatory and sealed) with the below documents:
   a. Annexure 1: Bidders details
   b. Annexure 2: Declaration regarding experience
   c. Annexure 3: Declaration of track record
   d. Annexure 4: Declaration of acceptance of terms and conditions
   e. Annexure 5: Details of item quoted

2. Sealed Envelope "B": Commercial Bid

Your quotation must be submitted in two separate sealed envelopes: Technical Bid (Envelope A) and Commercial Bid (Envelope B) super scribing on both the envelopes with Tender No. and due date. These envelopes should be put in a bigger cover which should also be sealed and duly superscribed with Tender No., Tender description & Due Date.